

operation & service manual

DE DATA EAST USA, INC.
470 Needles Drive
San Jose, California 95112

780-0063-00
May, 1987

WARNING

This equipment generates and uses radio frequency energy and if not installed and used properly, i.e., in strict accordance with the instructions manual, may cause harmful interference to radio communications. It has been tested and found to comply with the limits for a Class A computing device pursuant to Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference when operated in a commercial environment.

Operation of this equipment in a residential area is likely to cause interference in which case the user at his own expense will be required to take whatever measures may be required to correct the interference.

G O N D O M A N I A
O P E R A T I O N A N D S E R V I C E M A N U A L

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1ST PRINTING

MAY 1987

WARNINGS AND DISCLAIMERS

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REPLACEMENT PARTS AND SERVICE:

To obtain replacement parts or technical assistance, contact the Data East distributor in your area. If you require further technical assistance, contact Data East's Service department between the hours of 8:00 am to 5:00 pm Pacific time at (408) 286-7074.

1. WARRANTY INFORMATION

Data East USA, Inc., ("Seller"), warrants only to the initial purchaser of its products that the items listed below are free from defects in material and workmanship under normal use and service for the warranty period specified:

- | | |
|--|-----------|
| 1. Printed Circuit Boards (game logic) | (90) days |
| 2. Monitor pcb and CRT | (30) days |
| 3. Switching Regulator | (30) days |

No other parts of Seller's products are warranted.

Warranty periods are effective from the initial date of shipment from Seller to its authorized distributors.

Seller's sole liability shall be, at its option, to repair or replace products which are returned to Seller during the warranty periods specified, provided:

1. Seller is notified promptly upon discovery by buyer that stated products are defective.
2. Such products are properly packaged and then returned, prepaid to Seller's plant.

This warranty does not apply to any parts damaged during shipping and/or handling, or due to improper installation or usage, or alteration. In no event shall the Seller be liable for any anticipated profits, loss of profits, loss of use, accidental or consequential damages or any other losses incurred by the customer in connection with the purchase of a Data East USA, Inc. product.

WARRANTY DISCLAIMER

EXCEPT AS SPECIFICALLY PROVIDED IN A WRITTEN CONTRACT BETWEEN SELLER AND PURCHASER, THERE ARE NO OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

2 . G A M E S E T U P P R O C E D U R E S .

A. Inspecting the game.

Gondomania is shipped from the factory in a padded, reinforced cardboard container. Before signing the delivery receipt, inspect the container for signs of abuse or damage. Do not sign the delivery receipt if you suspect that the game may be damaged. Open the container in the presence of the delivery driver, note any damage on the delivery receipt, and have the driver initial it before signing the receipt.

Inspect the exterior of the game for any damage to the cabinet. Open the coin door with the proper key. You will find the keys for the cashbox door and the rear access door hanging inside the coin door.

Remove the rear access door and check the following items:

- * Check that all plug-in connectors are all firmly plugged in. Re-plug any connections found to be loose or unplugged.
- * Check for secure mounting of the power supply, monitor, and coin door.
- * Remove the power cord from inside the cabinet and insert the strain relief plate into the slot at the power cord opening in the cabinet.

→ DO NOT PLUG IN THE POWER CORD AT THIS TIME ←

B. Game installation.

Place the game in its intended location and stabilize it using the adjustable levelers built into the bottom of the cabinet.

Check the Operator Selectable Options information in section 3c of this manual and switch your game to the desired settings. The game is now ready to power up. Plug the game into a 117 VAC grounded outlet and flip the power switch located on the power supply chassis to the ON position. Allow 2 to 3 minutes for the monitor filaments to warm up and check for proper attract mode video. Insert the proper coinage, start the game, check for proper control operation and audio response. Refer to section 3a for descriptions of control operation and game play.

If you detect any problems at this point, remove power to the game and contact your distributor for further instructions.

3. SPECIFIC INFORMATION

A. Description of controls.

The Gondomania game is equipped with two sets of controls, one each for the left (Blue Air Bike) player and another for the right (Grey Air Bike) player. Each set consists of a 8 way joystick with a 12 position rotary control, two types of fire buttons, and two start buttons. See the control panel layout for control placement.

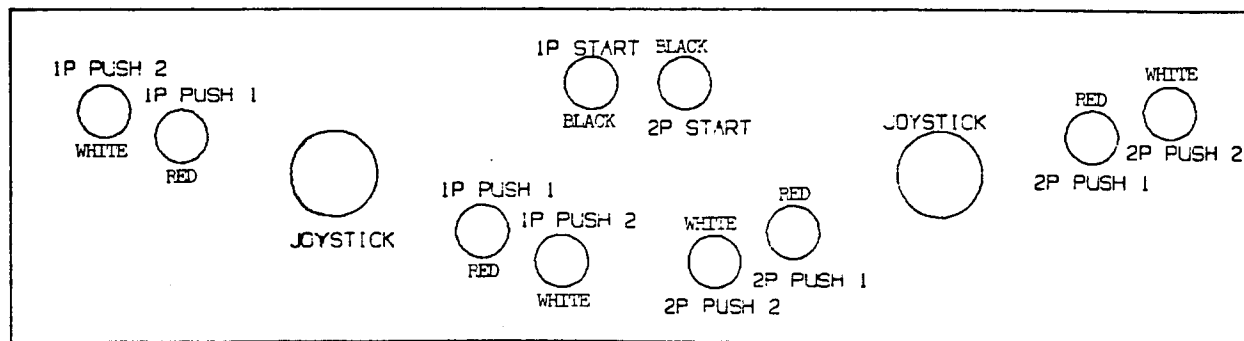


Figure 1

The joystick controls the right, left, up, and down motion of the player image. The 12 position rotary control aims the player image's arm and is used in conjunction with the Push 1 button to fire in the direction the player image's arm is pointing. The Push 2 button causes a shot to be fired in a forward direction only.

The left coin mech credits the Blue Air Bike, and the right coin mech credits the Grey Air Bike. When the proper credits are provided, the left start button is used to begin play for Blue Air Bike, and the right start button will begin play for the Grey Air Bike.

C. Operator selectable options.

The operator selectable options are accessed via two banks of dip-switches located on the DE-0269 pcb. Be certain to remove power to the game when changing the settings of these switches to prevent unwanted electrical shock. Factory settings are noted with an *.

T A B L E 1

DIPSWITCH 1			1	2	3	4	5	6	7	8
PLAYER 2	1 COIN = 1 CREDIT:*		OFF	OFF						
COIN	1 COIN = 2 CREDIT:		ON	OFF						
VS	1 COIN = 3 CREDIT:		OFF	ON						
CREDIT	2 COIN = 1 CREDIT:		ON	ON						
PLAYER 1	1 COIN = 1 CREDIT:*				OFF	OFF				
COIN	1 COIN = 2 CREDIT:				ON	OFF				
VS	1 COIN = 3 CREDIT:				OFF	ON				
CREDIT	2 COIN = 1 CREDIT:				ON	ON				
NOT USED							OFF			
ATTRACT MODE SOUND			YES:*					OFF		
			NO:					ON		
FLIP SCREEN			NORMAL:*						OFF	
			FLIP:						ON	
NOT USED										OFF

T A B L E 2

DIPSWITCH 2			1	2	3	4	5	6	7	8
			THREE:*	OFF	OFF					
NUMBER OF LIVES			FIVE:	ON	OFF					
			ONE:	OFF	ON					
			INFINITE:	ON	ON					
			NORMAL:*			OFF	OFF			
GAME DIFFICULTY			EASY:			ON	OFF			
			HARD:			OFF	ON			
			VERY HARD:			ON	ON			
CONTINUATION			NO:					OFF		
MODE			YES:*					ON		
NOT USED									OFF	OFF
										OFF

4. GENERAL INFORMATION

A. Sound volume control.

The sound volume level is adjustable by turning the potentiometer VR1 on the main logic pcb. This can be accessed by opening the Coin Mech door and locating the potentiometer near the upper forward corner of the pcb set (See figure 2). Turn the control clockwise to increase the sound volume.

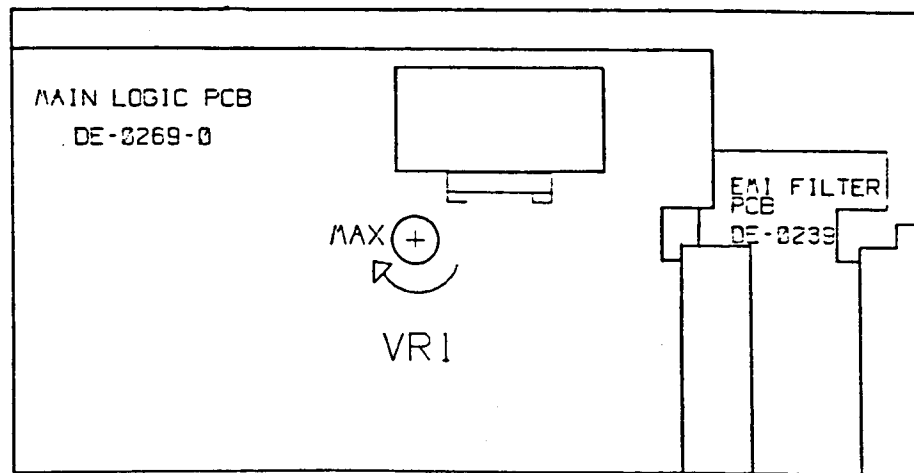


Figure 2

B. Power supply information.

The Power Supply assembly features an ON/OFF switch mounted on the Switch Bracket. This switch must be in the OFF position before removing any components of the game or attempting any repairs to prevent unwanted electrical shock. There are also two fuses mounted next to the ON/OFF Switch. They are labeled as to their required ratings. If required, replace these fuses only with FAST BLOW fuses of the same current ratings.

The 3 AMP FAST BLOW fuse is on the 117 VAC Line. In the event that this fuse should blow, this will remove all power to the game. Check all harnessing for proper connections and look for obvious damage to the Monitor, Power Supply, and Logic pcb before replacing the fuse.

The 1 AMP FAST BLOW fuse is on the +12 VDC line to the Coin Door lamps. In the event that this fuse should blow, the lamps will not illuminate. Check for damaged Coin Door wiring and/or defective Coin Door lamp(s).

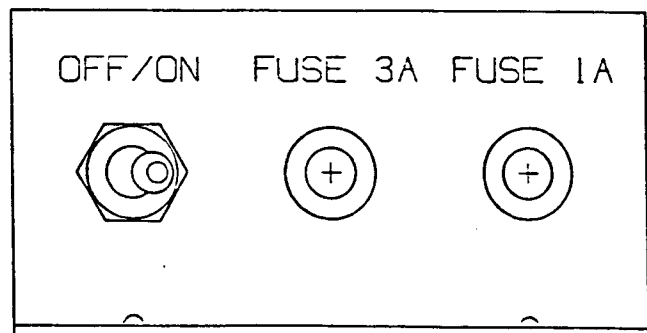


Figure 3

The Switching Regulator's DC output level is adjustable by turning the potentiometer VR1. This adjustment should only be made while measuring the +5 volt level with a DIGITAL MULTI-METER at the LOGIC PCB, not at the SWITCHING REGULATOR!

CAUTION: LIFE THREATENING VOLTAGES ARE PRESENT IN AND AROUND THE POWER SUPPLY ASSEMBLY! THIS PROCEDURE SHOULD ONLY BE PERFORMED BY QUALIFIED SERVICE PERSONNEL DUE TO THE EXTREME RISK OF PERSONAL INJURY AND/OR DAMAGE TO THE GAME ELECTRONICS.

C. Monitor adjustment information.

The Data East upright cabinet utilizes a Wells-Gardner 19K7602 RGB monitor display. The monitor adjustments are set at the factory for the optimum display. However, if adjustments are ever required, refer to figure 4 for control placement.

1. **BRIGHTNESS CONTROL VR6.** Adjust this control so that the illumination is just barely extinguished from portions of the display which should be black.
2. **CONTRAST CONTROL VR7.** Adjust the contrast control for the desired picture intensity.
3. **FOCUS CONTROL.** Adjust the focus control, located on the high voltage unit T1, for maximum overall definition and fine picture detail.
4. **HORIZONTAL HOLD CONTROL VR2.** With the monitor being driven with the display signal, connect a jumper between TP1 and TP2 and another jumper between TP3 and TP4. Adjust the horizontal hold control until the picture stops sliding horizontally. Remove the jumpers. Do not use the horizontal hold control for horizontal centering.
5. **HORIZONTAL VIDEO SHIFT CONTROL VR1.** Use this control to center the picture horizontally.
6. **HORIZONTAL RASTER POSITION ADJUSTMENT.** If the picture is off center horizontally, some compensation can be made by moving the horizontal raster position either to positions "R" or "L".
7. **HORIZONTAL SIZE COIL L1.** The horizontal size coil is a hexagonal tuning tool adjustment. This control must be adjusted slowly, if necessary, until the picture or test pattern attains the correct horizontal proportions.

8. VERTICAL HOLD CONTROL VR5. Adjust this control until the picture stops rolling and it locks in vertically.

9. 50-60 Hz CONTROL VR9. This control is used to limit the range of vertical size. This control is preset at the factory and should not require readjustment unless the vertical size or vertical hold controls are readjusted from their original factory settings. In order to set this control, first adjust the vertical size control so that the vertical size is slightly larger than desired. Turn VR9 so that any vertical fold-over which may be present will disappear.

10. VERTICAL SIZE CONTROL. This control must be adjusted slowly, if necessary, until the picture or test pattern attains the desired vertical proportions.

11. VERTICAL RASTER POSITION CONTROL VR3. If the video is off center vertically, some compensation can be made by turning the vertical position raster control.

12. CUT OFF AND DRIVE CONTROLS ON NECK BOARD VR201-VR206. These controls have been preset at the proper grey scale, adjustment of these controls should be avoided.

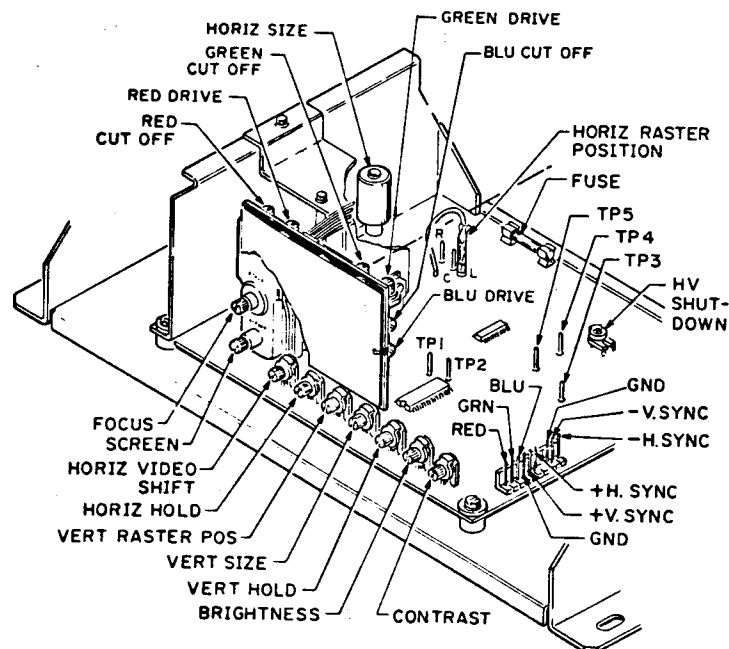


Figure 4

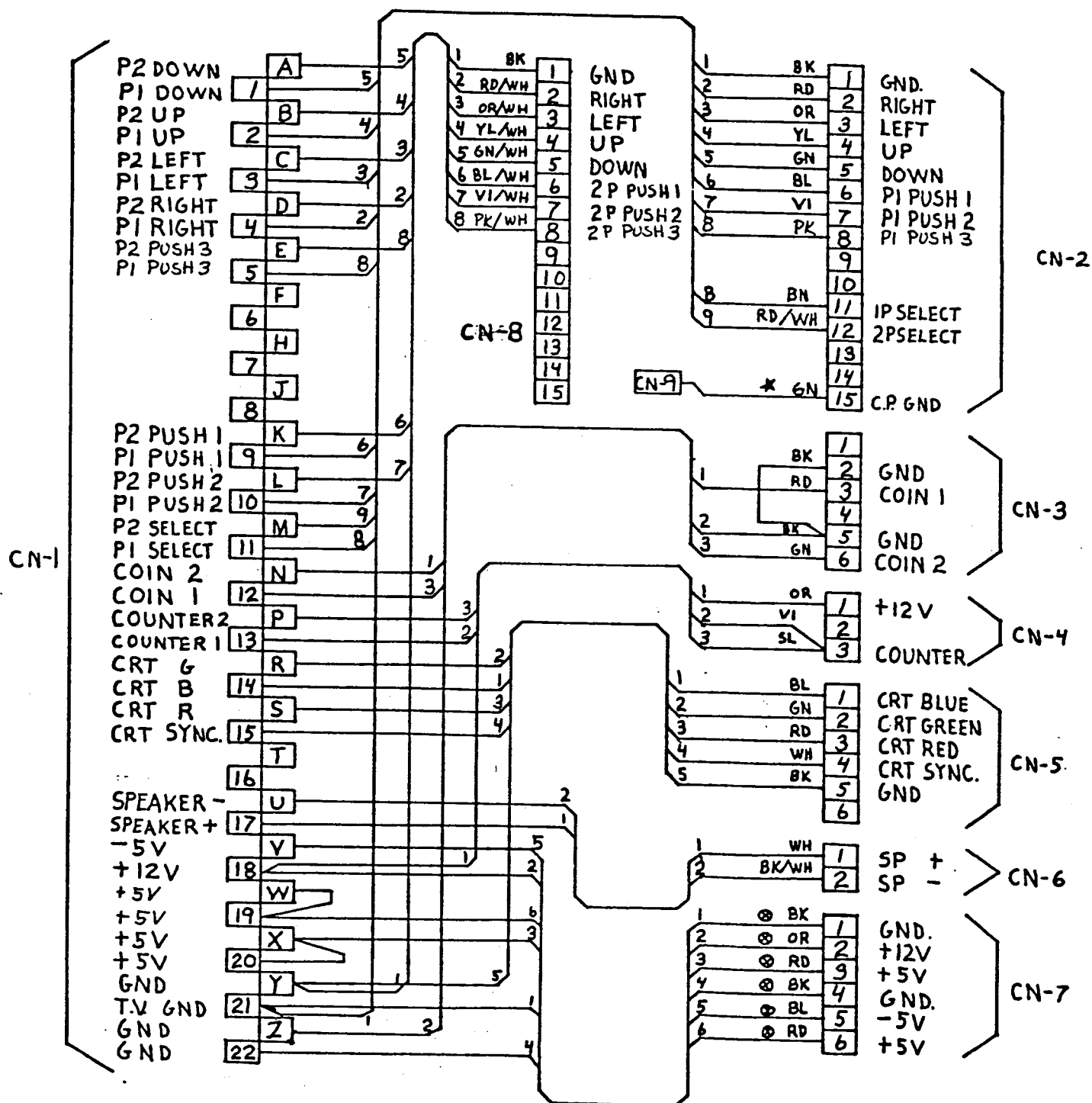
4 . R E P L A C E M E N T P A R T S B R E A K D O W N

The following section lists the replacement parts available for the Gondomania upright game. You should include the Data East Part Numbers when ordering replacement parts from your distributor to help in expediting your orders promptly and accurately.

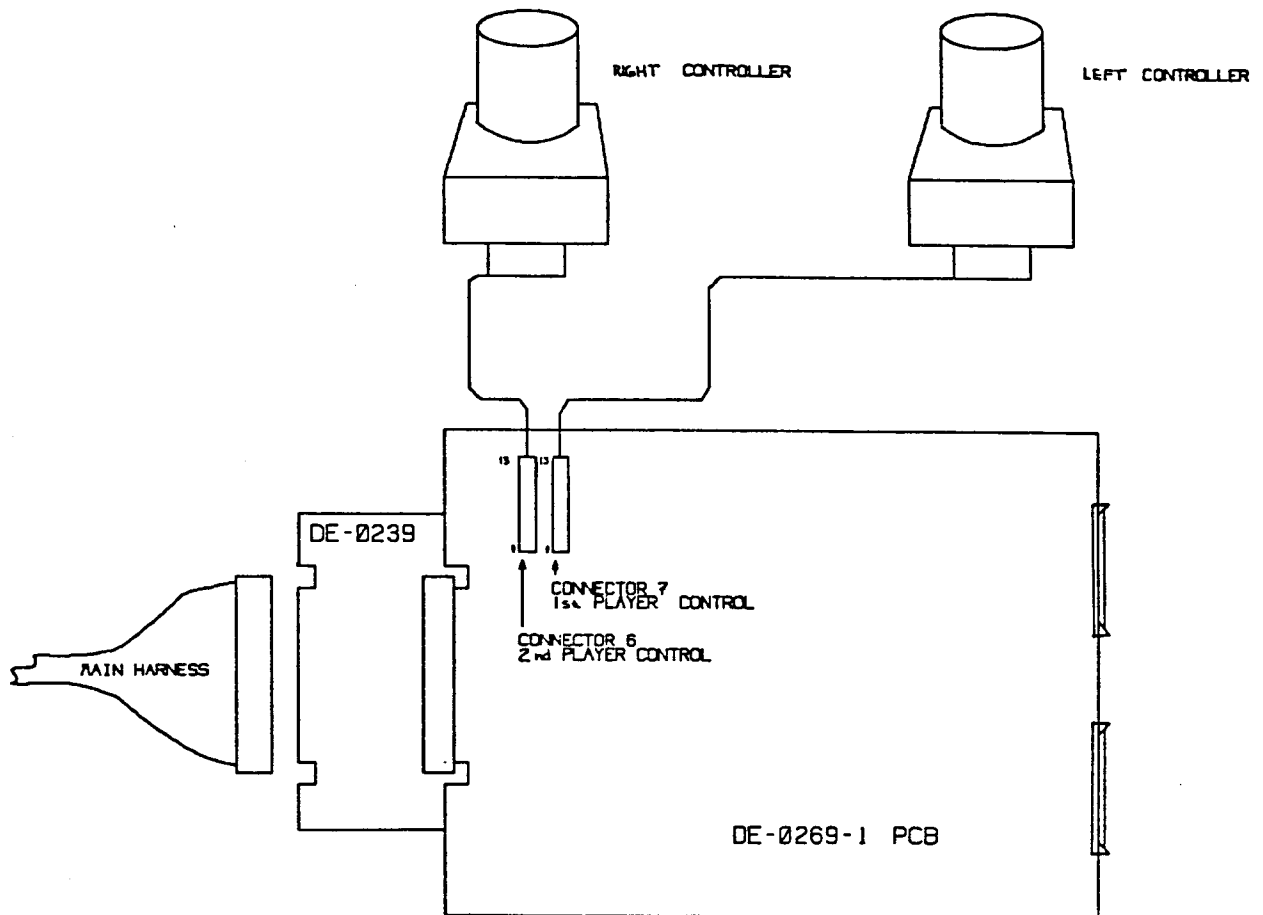
FINAL ASSEMBLY, GONDOMANIA U/R	500-0021-00
CABINET ASSEMBLY, 1US25-STYLE	365-0010-00
CONTROL PANEL ASSEMBLY	510-0111-00
COIN DOOR ASSEMBLY	515-0004-00
MONITOR ASSEMBLY, UNIVERSAL MOUNT	510-0065-00
POWER SUPPLY ASSEMBLY, 7A.	510-0002-00
PCB SET, GONDOMANIA	510-0112-00
PCB ASSY, EMI FILTER, DE-0239	520-0083-00
MAIN HARNESS, STD 2P	036-0117-01
DUAL LAMPHOLDER ASSEMBLY	170-0002-00
LAMP, INCANDESCENT, 40W	165-0004-01
PLEX RETAINER, MARQUEE	535-0009-00
PLEX, MARQUEE, GONDOMANIA	830-0031-00
PLEX, MONITOR, CLEAR, 23.75 X 23.75	660-0001-01
UNDERLAY CARD, GONDOMANIA	810-0025-00
LABEL, INSRUCTION, GONDOMANIA	406-0064-00
SIDE DECAL, DE GEN. 5-13-87	830-0040-00
SPEAKER, 4" RND.	031-0004-00
 CONTROL PANEL ASSEMBLY, GONDOMANIA	 510-0111-00
CONTROL PANEL, BARE	535-0061-00
CONTROL PANEL OVERLAY, GONDOMANIA	800-0027-00
JOYSTICK, 8 WAY, ROTARY	450-0012-00
PUSHBUTTON ASSY, RED	350-0001-02
PUSHBUTTON ASSY, WHITE	350-0001-09
PUSHBUTTON ASSY, BLACK	350-0001-00
BUTTON HOLDER W/SWITCH	185-0001-00
PAL NUT	240-0001-00
KNOB, JOYSTICK, ROTARY	455-0047-00
SCREW, HEX, FOR JOYSTICK KNOB	235-0001-10
 POWER SUPPLY ASSEMBLY, 7A.	 510-0002-00
SWITCHING REGULATOR, 7A	001-0001-00
ISOLATION TRANSFORMER	010-0001-00
HARNESS, DC OUT, 7A	036-0031-02
NOISE FILTER	150-0004-00
POWER CORD	515-0002-00
SWITCH BRACKET ASSY.	515-0004-00

5. WIRING DIAGRAM

A. Main Harness diagram.



B. Joystick rotary control wiring.



CN 6

PIN	SIGNAL
1	GROUND
2	2P SW1
3	2P SW2
4	2P SW3
5	2P SW4
6	2P SW5
7	2P SW6
8	2P SW7
9	2P SW8
10	2P SW9
11	2P SW10
12	2P SW11
13	2P SW12

CN 7

PIN	SIGNAL
1	GROUND
2	1P SW1
3	1P SW2
4	1P SW3
5	1P SW4
6	1P SW5
7	1P SW6
8	1P SW7
9	1P SW8
10	1P SW9
11	1P SW10
12	1P SW11
13	1P SW12

7 . S C H E M A T I C D I A G R A M R E Q U E S T F O R M

Technical Support Manuals with schematic diagrams are available by US Mail at no charge to owners of the Gondomania game. The Technical Support Manual contains schematic diagrams, pcb layout drawings, and parts lists for the Gondomania pcb set. To obtain your copy, fill out the information card below and mail to:

Data East USA, Inc.
470 Needles Dr.
San Jose, CA. 95112

Attn: Customer Service Dept.

NOTE: Please include the game serial number. No manuals will be mailed without this information. If you would like your company to be added to our mailing list to receive the latest Service Bulletins, check the appropriate box below.

Also, if you have suggestions or comments regarding Data East's product, manuals, or other subjects, please feel free to include them in the comments section below. We count on your feedback to help us serve you better!

G O N D O M A N I A

T E C H N I C A L S U P P O R T M A N U A L R E Q U E S T F O R M

CUSTOMER NAME: _____ TITLE: _____

COMPANY NAME: _____

STREET ADDRESS: _____

CITY: _____ STATE: _____ ZIP: _____

TELEPHONE NUMBER: _____ (_____) _____

GAME SERIAL NUMBER: _____ DATE: _____

YES! PLEASE ADD MY FIRM TO THE DATA EAST MAILING LIST.

NO! DO NOT ADD MY FIRM TO THE DATA EAST MAILING LIST.

COMMENTS: _____



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GONDOMANIA

TECHNICAL SUPPORT MANUAL

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P.N. 780-0065-00
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TECHNICAL SUPPORT MANUAL

FOR

GONDOMANIA

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PREFACE

This manual is intended to be used by service technicians to aid in the diagnosis and repair of the Gondomania game. The manual presents game play, player control operation, operator selectable options, component lists, schematics, and more.

All programmed devices are listed with their checksums, to simplify verification of a device with a Eprom duplicator. See page Chapter 2c for additional information on using this data.

If you have any questions or suggestions regarding this publication, or if you require assistance with a Data East game, please call our Technical Service department at (408) 286-7074, Monday thru Friday, 8:00 am to 5:00 pm Pacific time. You may mail your comments to:

Data East USA, Inc.
470 Needles Inc.
San Jose, CA. 95112
Attn: Technical Service

1. GENERAL INFORMATION

a. Game Play & Player Control Description.

The Gondomania game is equipped with two sets of controls, one each for the left (Blue Air Bike) player and another for the right (Grey Air Bike) player. Each set consists of a 8 way joystick with a 12 position rotary control, two types of fire buttons, and two start buttons. See the control panel layout for control placement.

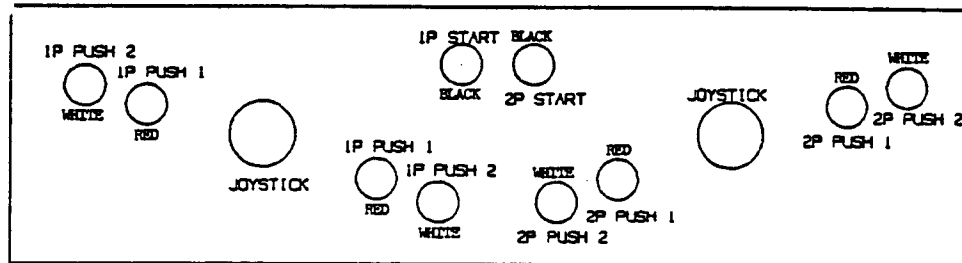


Figure 1

The joystick controls the right, left, up, and down motion of the player image. The 12 position rotary control aims the player image's arm and is used in conjunction with the Push 1 button to fire in the direction the player image's arm is pointing. This weapon has unlimited firepower. The Push 2 button causes a limited (50 shots) amount of firepower to be fired in a forward direction only.

You can pick up additional firepower as the game progresses. Additional firepower and optional equipment can be purchased by collecting money received for destroying enemy targets, and flying over the object you desire. The cost of the object will be deducted from your accumulated money. If the object's cost is greater than the total money you have accumulated, you will not pick up the object or gain additional firepower.

The left coin mechanism credits the Blue Air Bike, and the right coin mechanism credits the Grey Air Bike. When the proper credits are provided, the left start button is used to begin play for Blue Air Bike, and the right start button will begin play for the Grey Air Bike.

b. Operator Selectable Options.

The operator selectable options are accessed via two banks of dip-switches located on the DE-0269 pcb. Be certain to remove power to the game when changing the settings of these switches to prevent unwanted electrical shock. Factory settings are noted with an *.

T A B L E 1 .

DIPSWITCH 1		1	2	3	4	5	6	7	8
PLAYER 2	1 COIN = 1 CREDIT:*	OFF	OFF						
COIN	1 COIN = 2 CREDIT:	ON	OFF						
VS	1 COIN = 3 CREDIT:	OFF	ON						
CREDIT	2 COIN = 1 CREDIT:	ON	ON						
PLAYER 1	1 COIN = 1 CREDIT:*			OFF	OFF				
COIN	1 COIN = 2 CREDIT:			ON	OFF				
VS	1 COIN = 3 CREDIT:			OFF	ON				
CREDIT	2 COIN = 1 CREDIT:			ON	ON				
NOT USED						OFF			
ATTRACT MODE SOUND		YES:*					OFF		
		NO:					ON		
FLIP SCREEN		NORMAL:*						OFF	
		FLIP:						ON	
NOT USED									OFF

T A B L E 2

DIPSWITCH 2		1	2	3	4	5	6	7	8
NUMBER OF LIVES	THREE:*	OFF	OFF						
	FIVE:	ON	OFF						
	ONE:	OFF	ON						
	INFINITE:	ON	ON						
GAME DIFFICULTY	NORMAL:*			OFF	OFF				
	EASY:			ON	OFF				
	HARD:			OFF	ON				
	VERY HARD:			ON	ON				
CONTINUATION MODE	NO:					OFF			
	YES:*					ON			
NOT USED							OFF	OFF	OFF

2. COMPONENT LIST

a. DE-0269 PCB

TYPE	DEVICE ID	PART NUMBER	PCB LOCATION
TTL	74LS00	100-0025-00	2E
TTL	74LS02	100-0026-00	6D
TTL	74LS04	100-0027-00	9E, 7E, 8E
TTL	74LS08	100-0028-00	9D
TTL	74LS10	100-0029-00	15E
TTL	74LS27	100-0032-00	10A
TTL	74LS32	100-0034-00	4D, 5E, 6E
TTL	74LS74	100-0037-00	11D, 1E, 3E
TTL	74LS86	100-0039-00	10D, 14E
TTL	74LS138	100-0042-00	15D
TTL	74LS139	100-0043-00	2D
TTL	74LS153	100-0045-00	6A, 7A, 8A, 9A, 7B
TTL	74LS157	100-0046-00	14 EA. (see pcb layout)
TTL	74LS174	100-0051-00	10C, 16C, 18C, 8D, 10E, 12E
TTL	74LS194	100-0055-00	3A, 6K
TTL	74LS244	100-0057-00	3B, 1D
TTL	74LS245	100-0058-00	5C, 7C, 8C, 9C, 13C, 15C, 6J
TTL	74LS257	100-0171-00	8J, 9J, 10J, 12J, 13J, 15J, 16J
TTL	74LS273	100-0022-00	13 EA (see pcb layout)
TTL	74LS283	100-0061-00	11A, 13A, 14A, 10B
TTL	74LS299	100-0220-00	11D, 17E, 18E, 10F, 11F, 15F, 16F
TTL	74LS367	100-0062-00	4E
TTL	74LS374	100-0064-00	1C, 2C, 3C, 4C, 6C
CPU	6502A	100-0094-01	5J
CPU	6809E	100-0189-01	1F
CPU	8751H	960-0008-04	1B
RAM	TMM2015-15	105-0083-00	6H
RAM	TMM2018-15	105-0035-00	5B, 8B, 9B, 13E
RAM	HM6264-10	105-0051-02	16B
OPN	YM2203	100-0123-00	3F
DAC	YM3014	100-0179-00	1H, 2H
OPL	YM3526	100-0208-00	3H
OP AMP	MPC3403	100-0124-00	1J
PWR AMP	MB3730	100-0081-00	1K
HYBRID	RCDM-I1	100-0185-00	RA4, RA5, RA6-RA13, RA20, RA21
HYBRID	RM-C3	120-0066-00	RA1, RA2
XTAL	8 MHZ	140-0007-00	X1
XISTOR	2SD880	110-0044-00	Q1
RESNET	1K X 8	120-0039-20	RA3
RESNET	3.3K X 8	120-0037-26	RA16, RA17
RESNET	10K X 8	120-0039-32	RA22

b. DE-0259 PCB

TYPE	DEVICE ID	PART NUMBER	PCB LOCATION
TTL	74LS00	100-0025-00	2B,1D,16E,7K
TTL	74LS02	100-0026-00	2A
TTL	7404	100-0007-00	17A
TTL	74LS04	100-0027-00	1C,13C,14C,16C,9E,3L
TTL	74LS08	100-0028-00	3D,12C,15D,10E,9M
TTL	74LS10	100-0029-00	7B
TTL	74LS14	100-0030-00	14A
TTL	74LS20	100-0031-00	7E,9L
TTL	74LS30	100-0033-00	2D,8E
TTL	74LS32	100-0034-00	12E,10K
TTL	74LS74	100-0037-00	11 EA (see pcb layout)
TTL	74LS86	100-0039-00	13A,13B,9C,14D
TTL	74LS138	100-0042-00	12B
TTL	74LS157	100-0046-00	12 EA (see pcb layout)
TTL	74LS158	100-0047-00	6F,7F,8H,8J,14H,14J,
TTL	74LS163	100-0049-00	7A,10A,11A,1D,2E
TTL	74LS174	100-0051-00	15C,3K,1L
TTL	74LS175	100-0052-00	10D,10M
TTL	74LS194	100-0055-00	17C,18C,17D,18D,11D
TTL	74LS244	100-0057-00	14B,7J,13J
TTL	74LS245	100-0058-00	4A,5A,17B,18B,15,16,17,18K
TTL	74LS257	100-0170-00	7J,12J,15J,18J
TTL	74LS273	100-0022-00	2J,6K,8M
TTL	74LS283	100-0061-00	7A,8A,7D,8D
TTL	74LS373	100-0111-00	10J,11J,16J,17J
TTL	74LS374	100-0064-00	26 EA (see pcb layout)
TTL	74LS375	100-0173-00	13D,16D,8L,10L
TTL	74LS669	100-0191-00	7C,8C
CUSTOM IC	HMC-20	100-0159-00	16A
CUSTOM IC	VSC-30	100-0160-00	11B
CUSTOM IC	DRL-40	100-0221-00	6M,12M
RAM	TMM2018-55	105-0035-00	10 EA (see pcb layout)
LINEAR	PST-518	110-0065-00	PST518
XTAL	12 MHZ	140-0005-00	XTAL

c. Eprom Checksums.

This section lists the program devices (Eproms) used on the Gondomania pcb set. In addition, we have included the checksum of each device to allow verification of suspect devices with the aid of an Eprom duplicating machine. The checksum is a sum of all the programmed bytes in an Eprom and is unique to each individual program device. These checksums were generated using a Data I/O System 29B.

If you suspect a program device has failed, load its program into the duplicating equipment. Compare the checksum displayed with the data on the following list and verify that they match. In the event that your checksum does not match, check one or two other Eproms in the same manner to be certain that your duplicating equipment computes checksums in the same fashion.

DE-0269 PCB

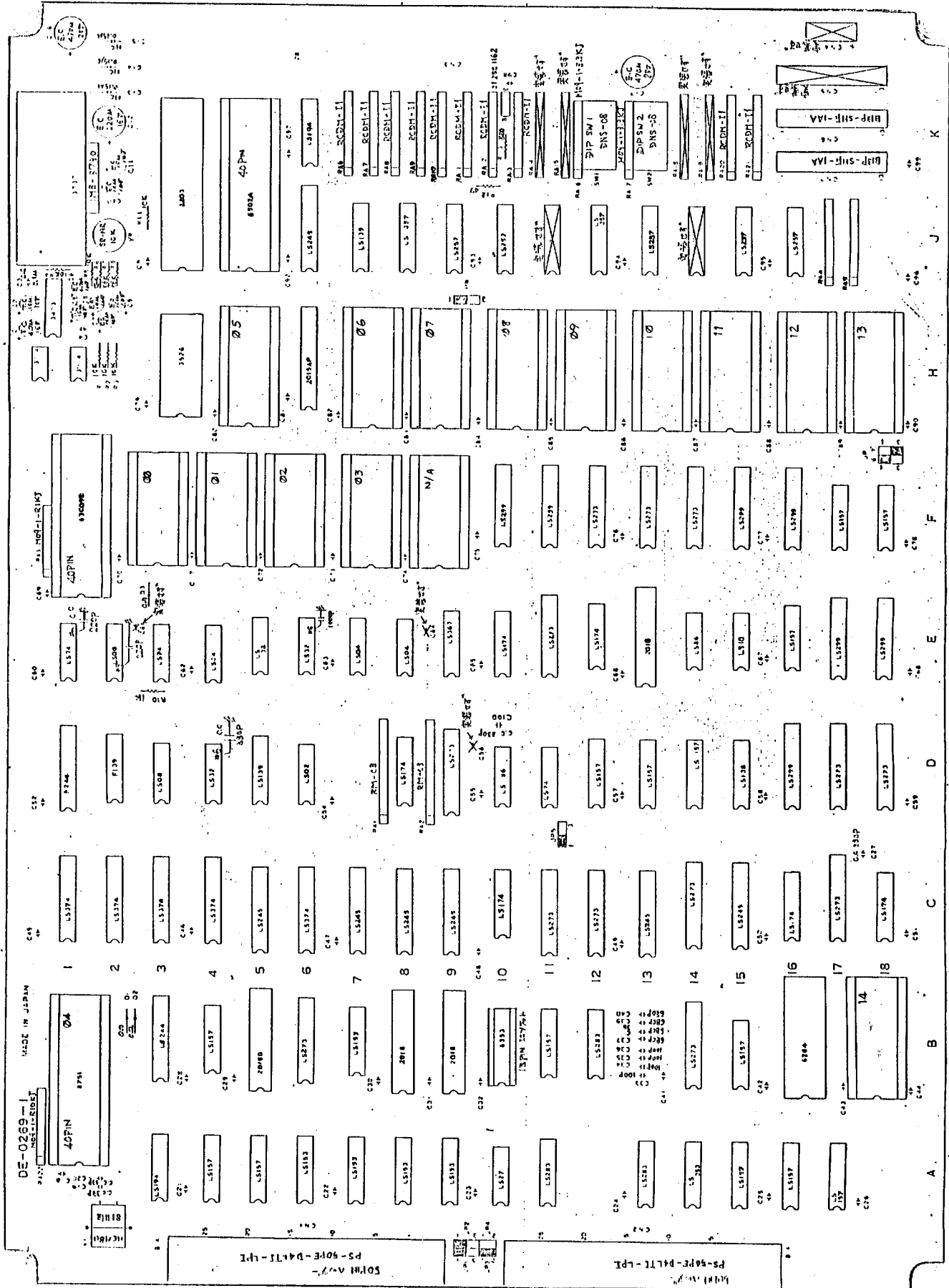
<u>LABEL</u>	<u>DEVICE</u>	<u>SUM</u>	<u>FUNCTION</u>	<u>PART NUMBER</u>
DT-00	27256	E9F2	CPU PROGRAM	960-0008-00
DT-01	27512	068E	CPU PROGRAM	960-0008-01
DT-02	27512	62AA	CPU PROGRAM	960-0008-02
DT-03	27512	2424	CPU PROGRAM	960-0008-03
DT-04	8751H	N/A	SECURITY CHIP	960-0008-04
DT-05	27256	9EF5	AUDIO PROGRAM	960-0008-05
DT-06	27512	2C79	BACKGROUND GRAPHICS	960-0008-06
DT-07	27256	E196	BACKGROUND GRAPHICS	960-0008-07
DT-08	27512	ED13	BACKGROUND GRAPHICS	960-0008-08
DT-09	27256	DFB8	BACKGROUND GRAPHICS	960-0008-09
DT-10	27512	265C	BACKGROUND GRAPHICS	960-0008-10
DT-11	27256	1835	BACKGROUND GRAPHICS	960-0008-11
DT-12	27512	6F21	BACKGROUND GRAPHICS	960-0008-12
DT-13	27256	75D0	BACKGROUND GRAPHICS	960-0008-13
DT-14	27256	07C6	FOREGROUND COLOR	960-0008-14

DE-0259 PCB

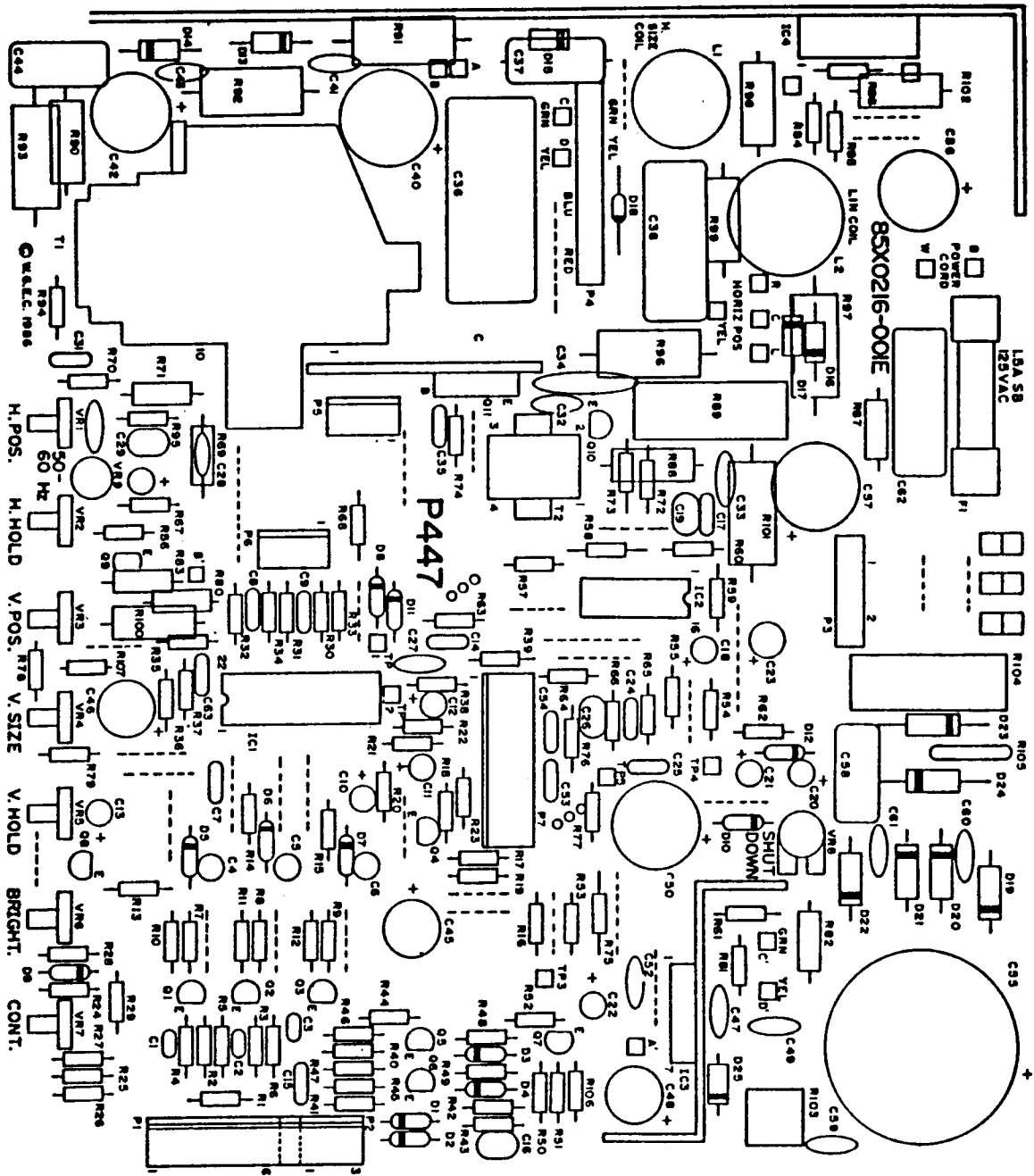
DT-15	27512	8A9F	MOVING OBJECT GRAPHICS	960-0008-15
DT-16	27512	E8D8	MOVING OBJECT GRAPHICS	960-0008-16
DT-17	27256	5F4A	MOVING OBJECT GRAPHICS	960-0008-17
DT-18	27256	F699	MOVING OBJECT GRAPHICS	960-0008-18
DT-19	27512	97F8	MOVING OBJECT GRAPHICS	960-0008-19
DT-20	27256	7402	MOVING OBJECT GRAPHICS	960-0008-20
DT-21	27512	7CE9	MOVING OBJECT GRAPHICS	960-0008-21
DT-22	27256	EFD6	MOVING OBJECT GRAPHICS	960-0008-22

4. PCB LAYOUT DIAGRAMS

a. DE-0269 PCB



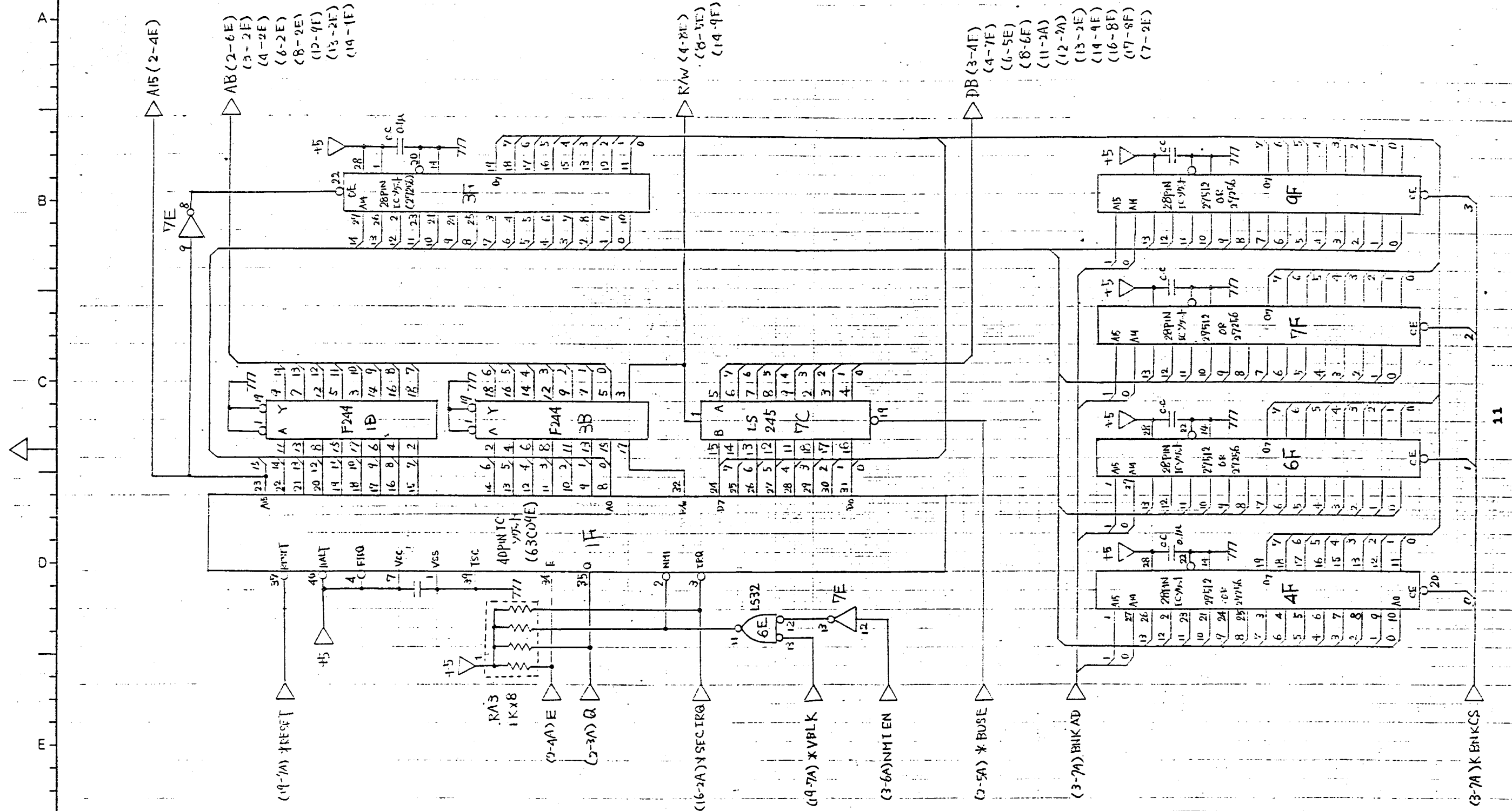
c. Wells-Gardner 19K7000 Monitor Chassis.



5. SCHEMATIC DIAGRAMS

- a. DE-0269 PCB.....page 11-30
- b. DE-0259 PCB.....page 31-47
- c. Wells-Gardner K7000 Monitor.....48

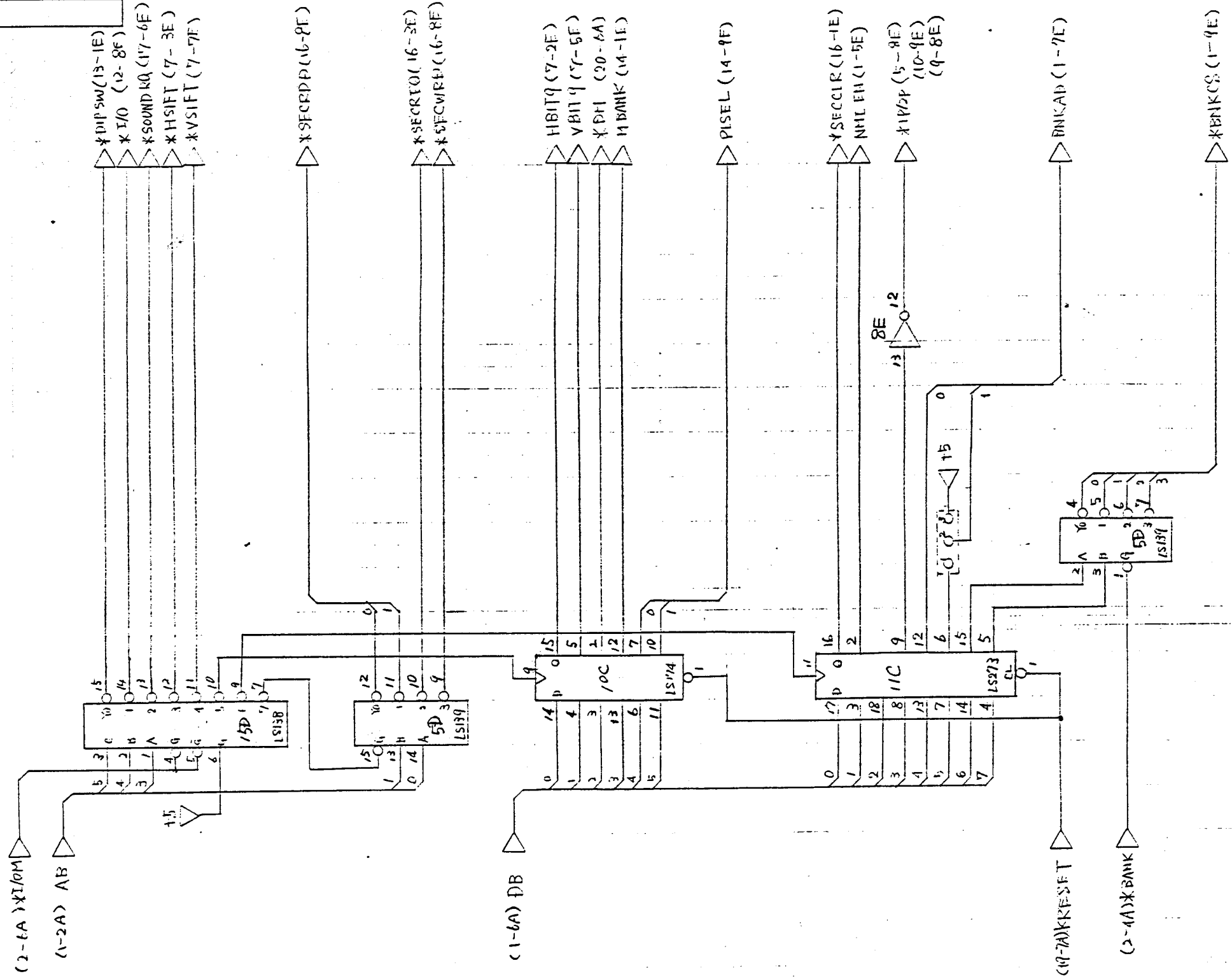
関連番号	仕様、名称



記事

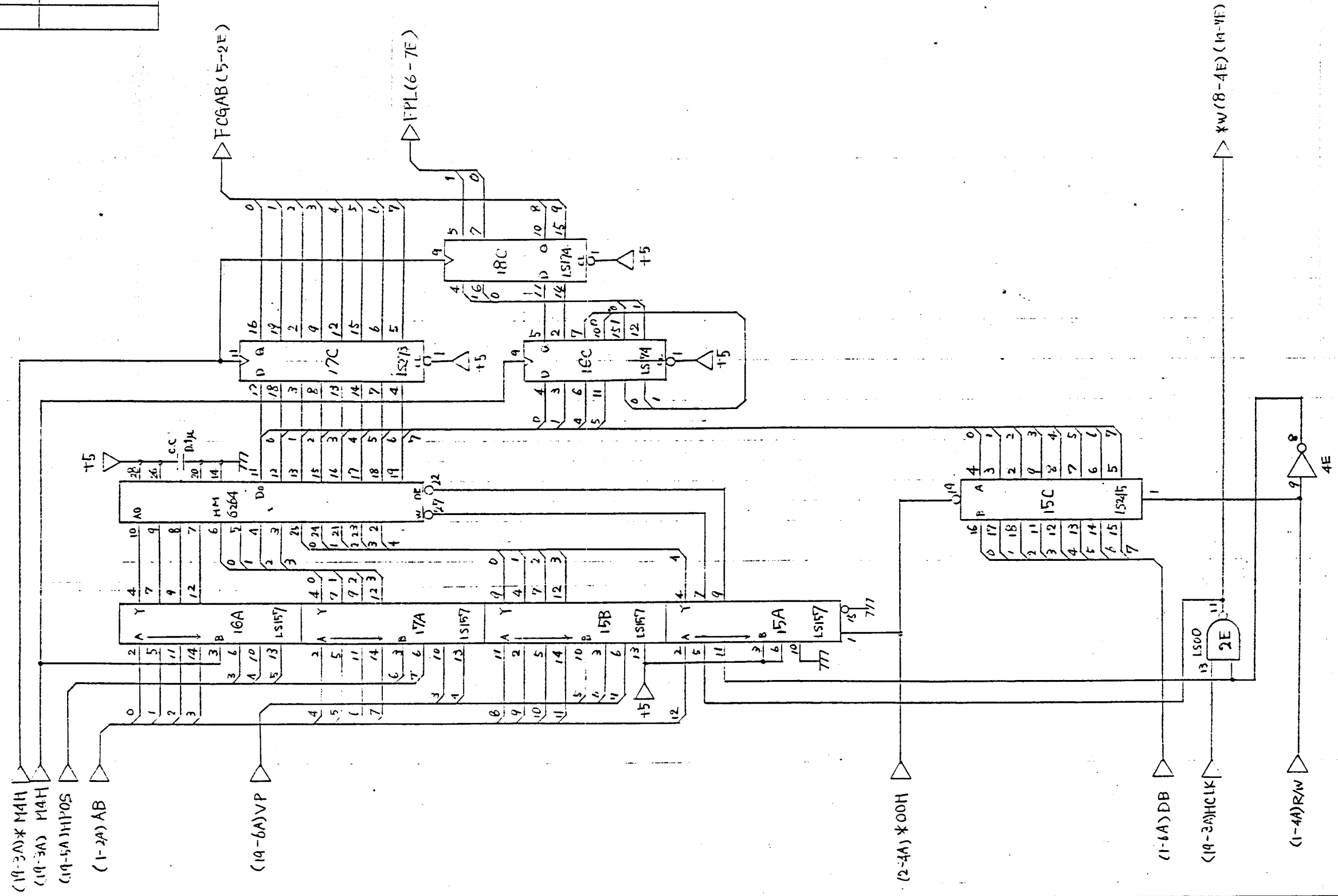
記号	担当者	年月日	改訂	箇所	符号	部品、図面番号	名称	仕様、材質	通
材質	承認	検図	検図	担当	単位	mm	名称	CFB-63	1
				6/12/96			図番	K-0996	1

関連番号	仕様、名称



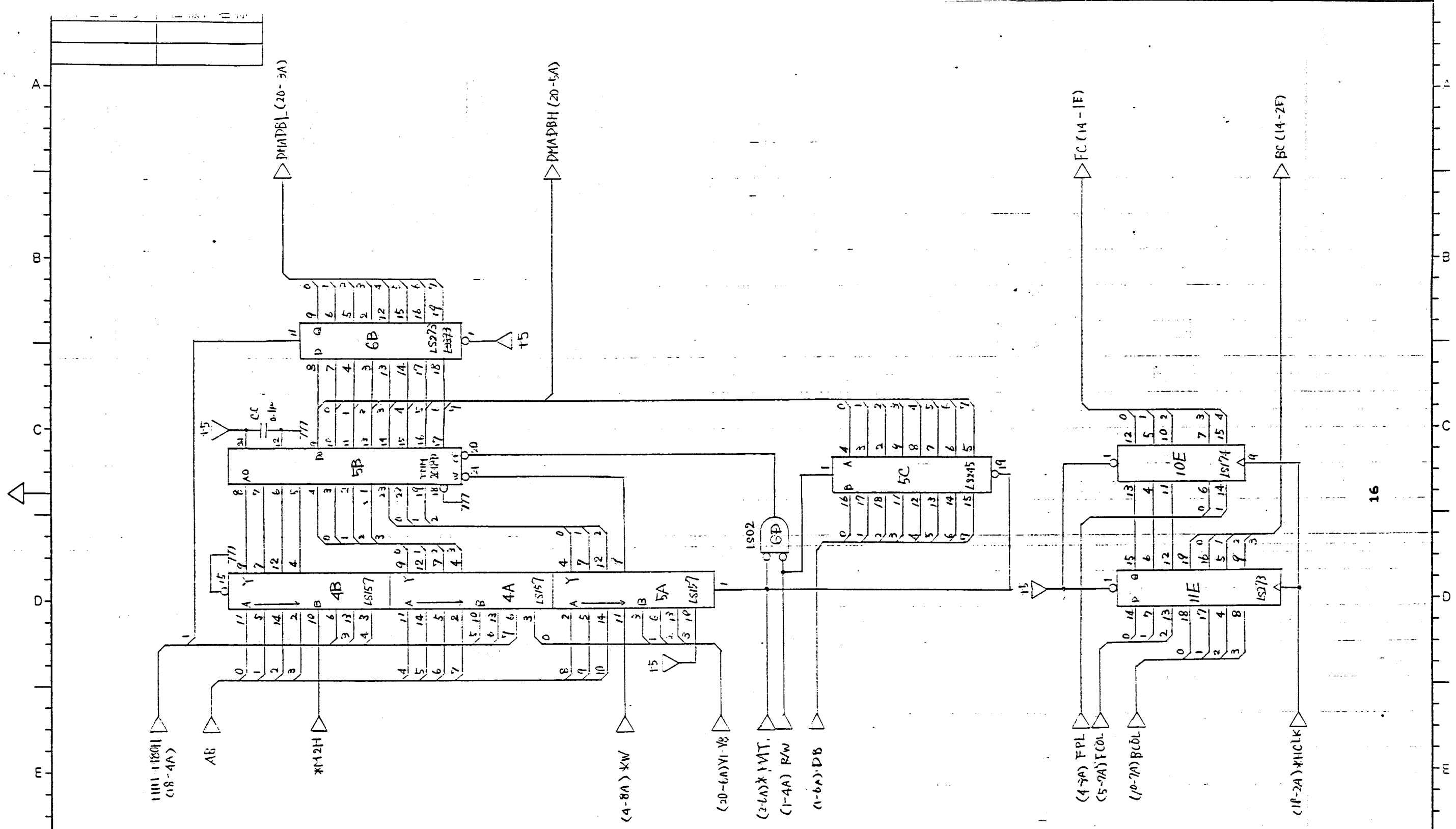
記号	担当	年月日	改訂	個所	符号	部品、図面番号	名称	仕様、材質
材質	処理	公差	名称	CFB-43				
承認	検図	検図	担当	単位	mm	図番	K-10976	
				尺度	/			

開通番号	仕様、名称



記事

記号	担当	年月日	改訂	箇所	符号	部品、図面番号	名称	仕様、材質	備考
材質	承認	検図	検図	担当	単位	mm	名称	仕様、材質	備考
							CFB-63		
							K-10995		

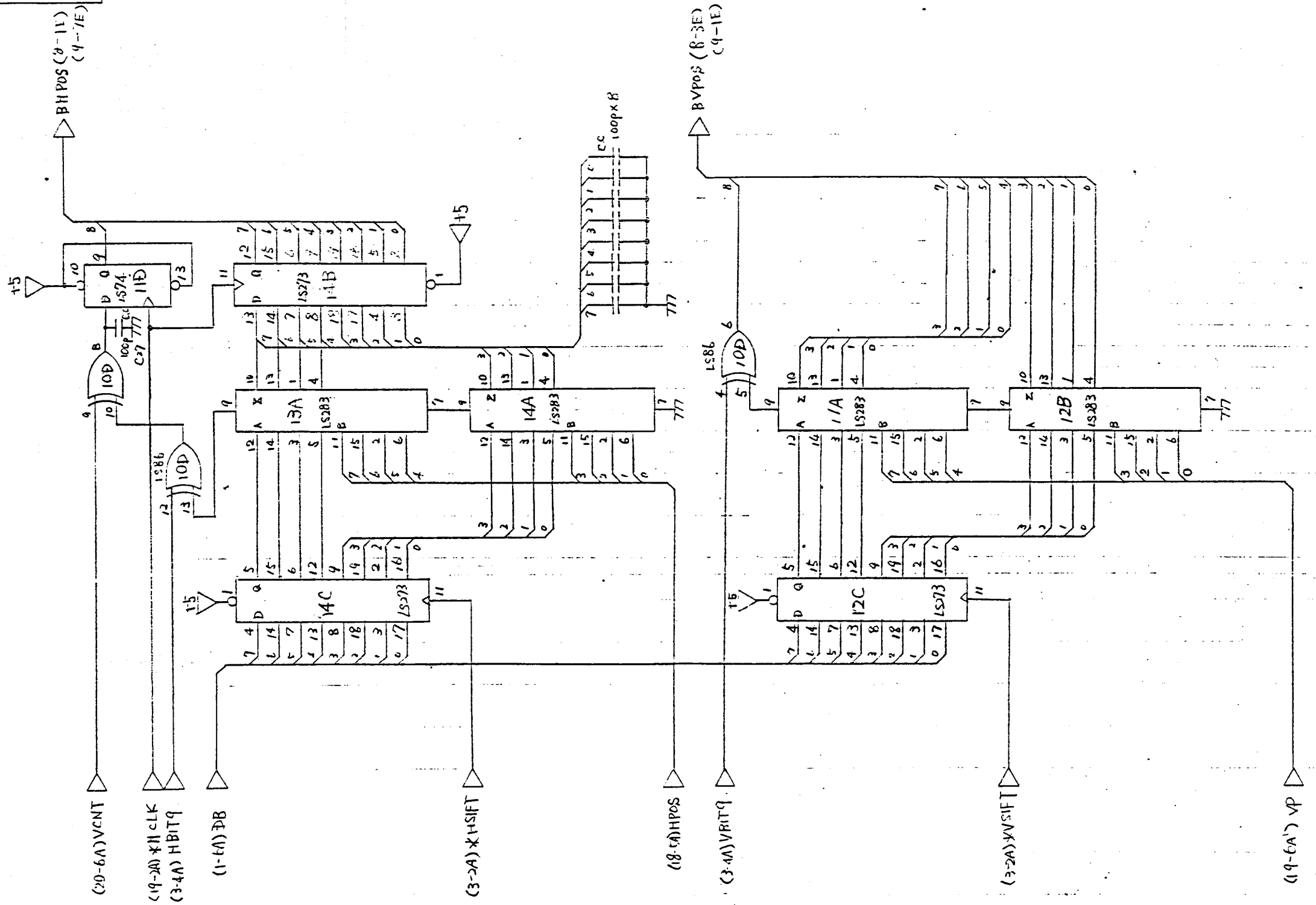


記 事		記号	担当	年月日	改 訂	個 所	符号	部品、図面番号	名 称	仕 様、 材 質	備 考
材 質		検 図		検 図		担 当		公 差	名 称	仕 様、 材 質	備 考
								単 位			
承認		検 図		検 図		担 当		mm	図 番	仕 様、 材 質	備 考
								尺 度			

CFB-63

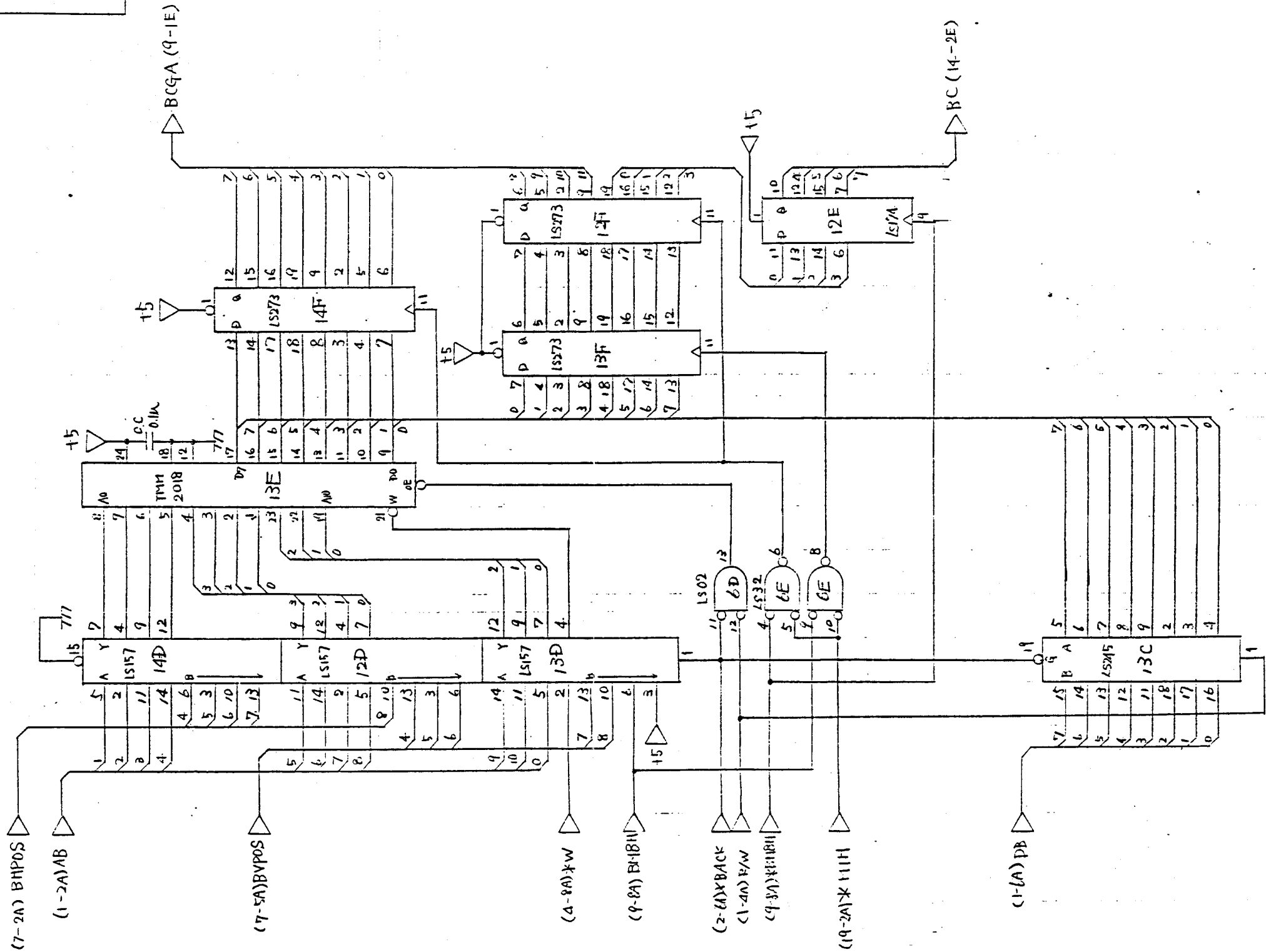
K-10996

開通番号	仕様、名称



記事		記号	担当者	年月日	改訂	箇所	符号	部品、図面番号	名称	仕様、材質	備考
		材質	処理	公差	名称						
		承認	検図	検図	担当	単位	mm	図番			
					田	尺度	/				
									CF5-6 ³		
									K-10996		
									7		
									10		

関連番号	仕様, 名称

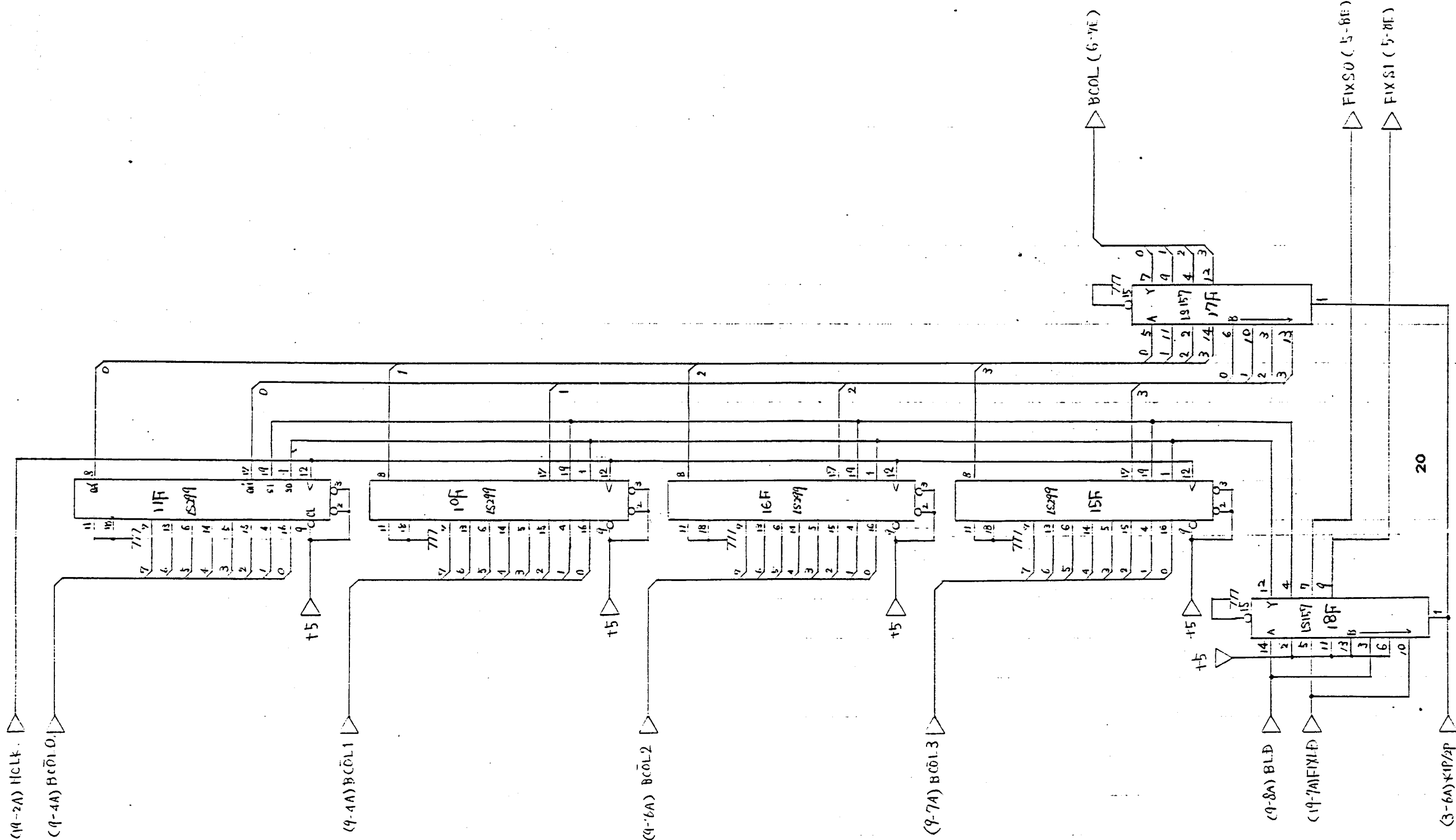


18

記 事

記号	担当	年月日	改訂	個所	符号	部品, 図面番号	名 称	仕様, 材質	備 考
材質	処理	公差	名称	CFB-63					
承認	検図	検図	担当	単位	mm	図番	K-10996		
			担当 林田 41.7.27	尺度	/				

関連番号	仕様、名称



記事

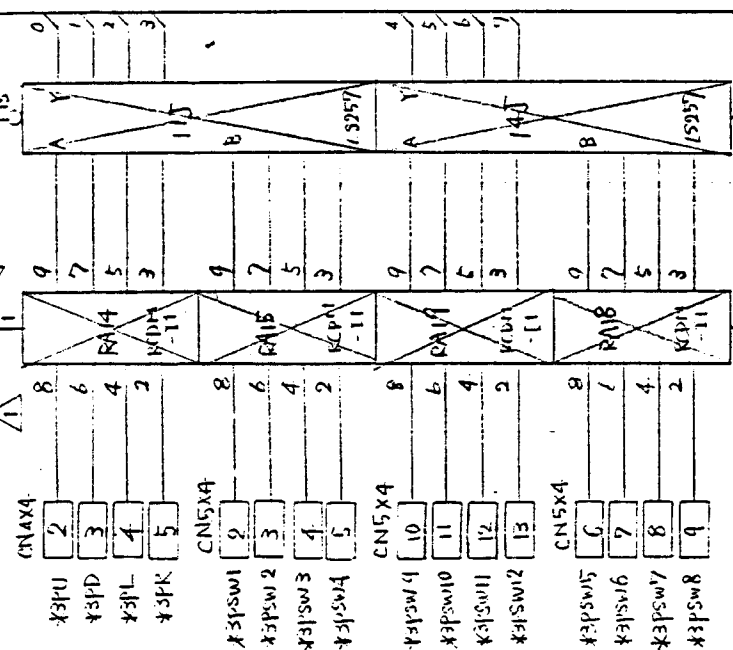
記号	担当者	年月日	改訂	箇所	符号	部品、図面番号	名称	仕様、材質	1/2
材質			処理		公差		名称		
承認	検図	検図	担当		単位	mm	図番		
			承認		尺度	/			

CFB-63

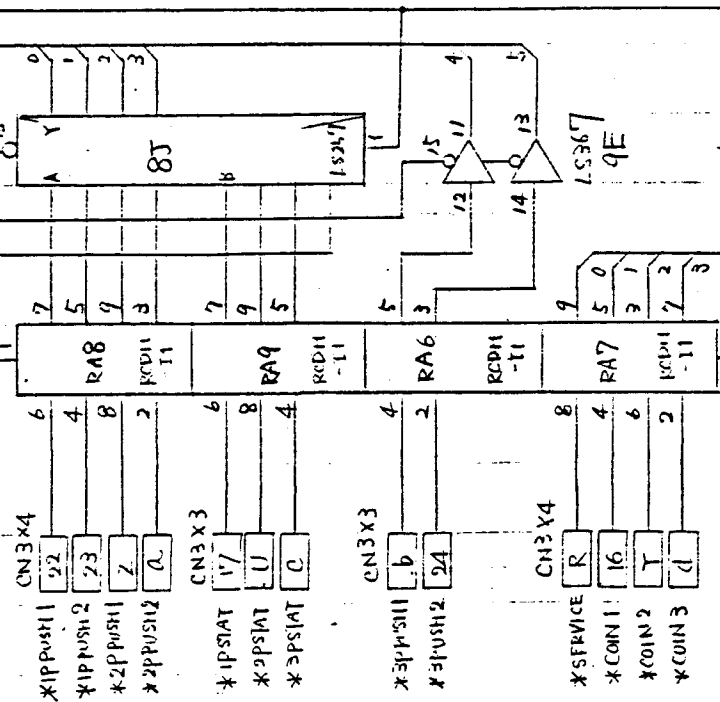
K-10996

関連番号	仕様、名称

(12-8A) *INP3 (12-8A) *INP3



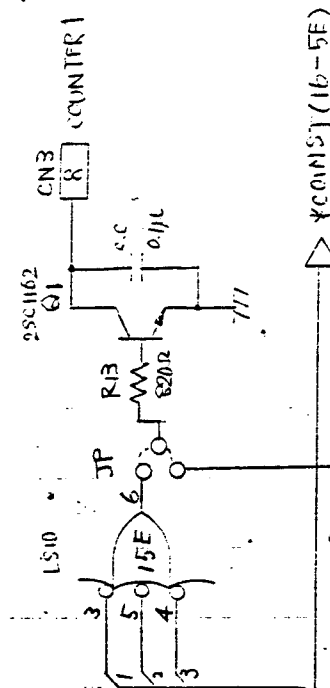
(19-7A) *VBLK (12-8A) *INP0



(12-7A) *KA0

(19-7A) *RESET

(16-4A) COUNT



*CONS1 (16-5E)

21

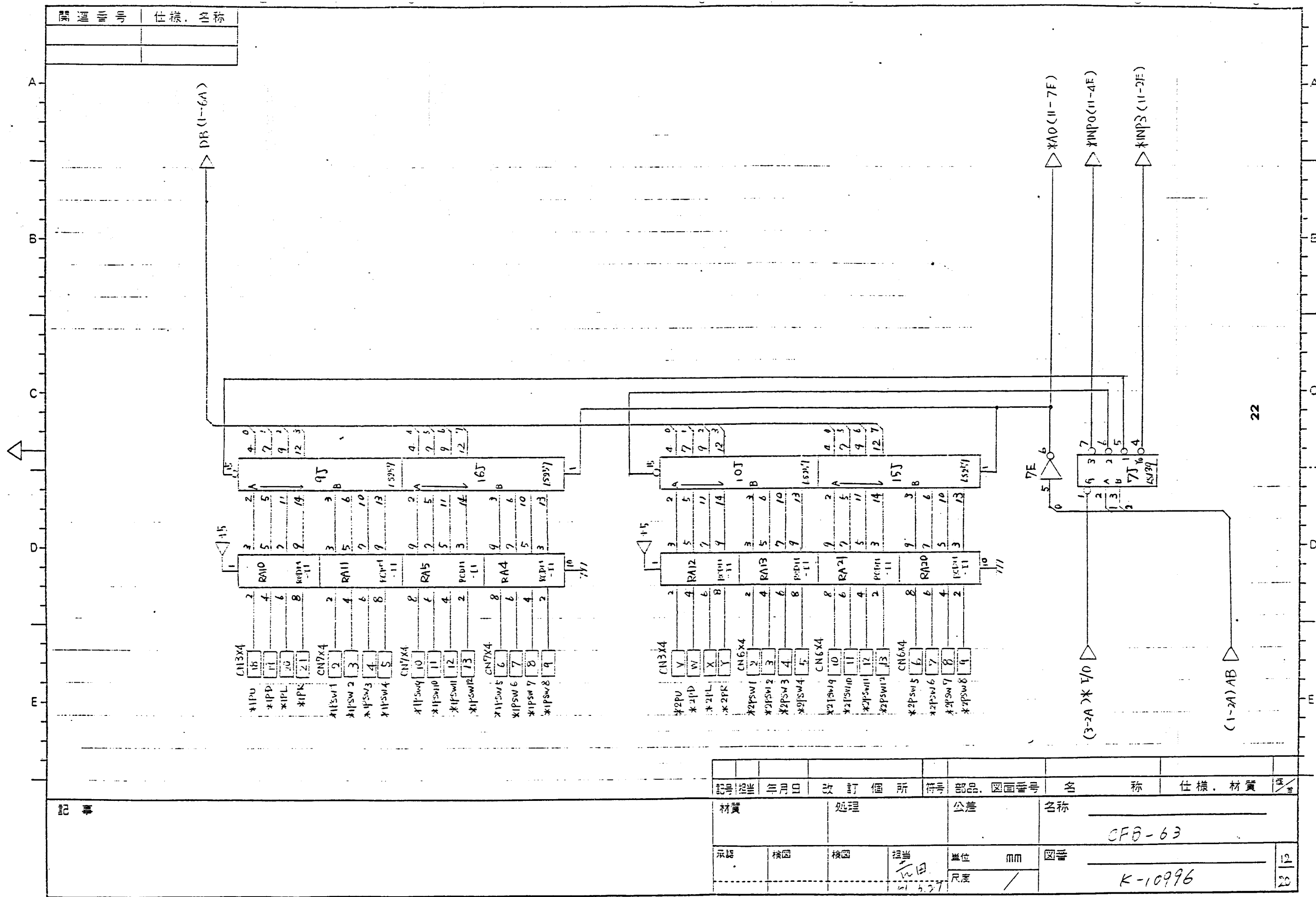
記事
△ 量産時コスト削減のため実装せず

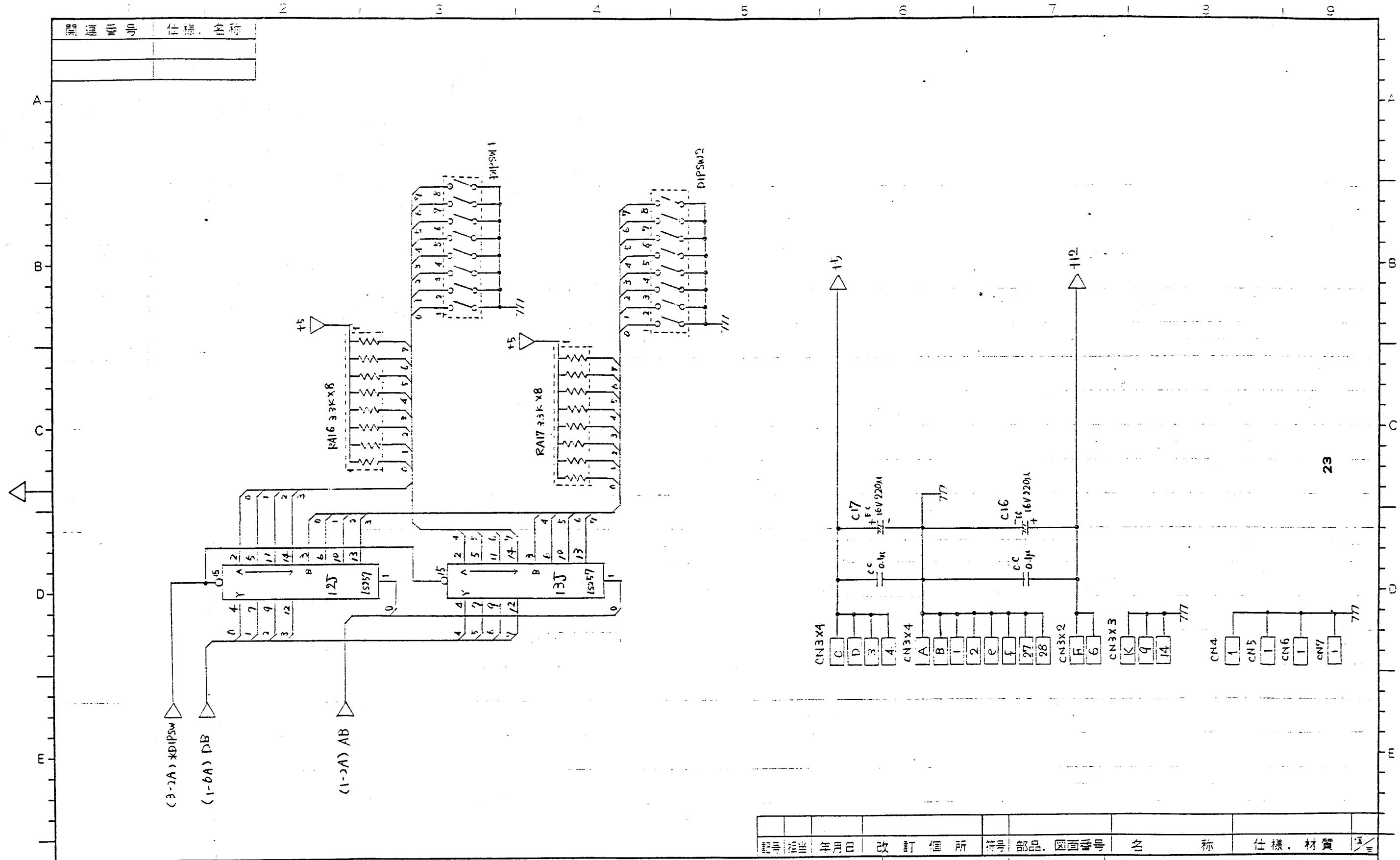
記号	担当	年月日	改訂	箇所	符号	部品、図面番号	名称	仕様、材質	図番
材質	処理	公差	名称	仕様、材質	図番	承認	検図	検図	担当
承認	検図	検図	担当	単位	mm	図番	承認	検図	検図
承認	検図	検図	担当	単位	mm	図番	承認	検図	検図
承認	検図	検図	担当	単位	mm	図番	承認	検図	検図

CFB-63

K-10996

11/21



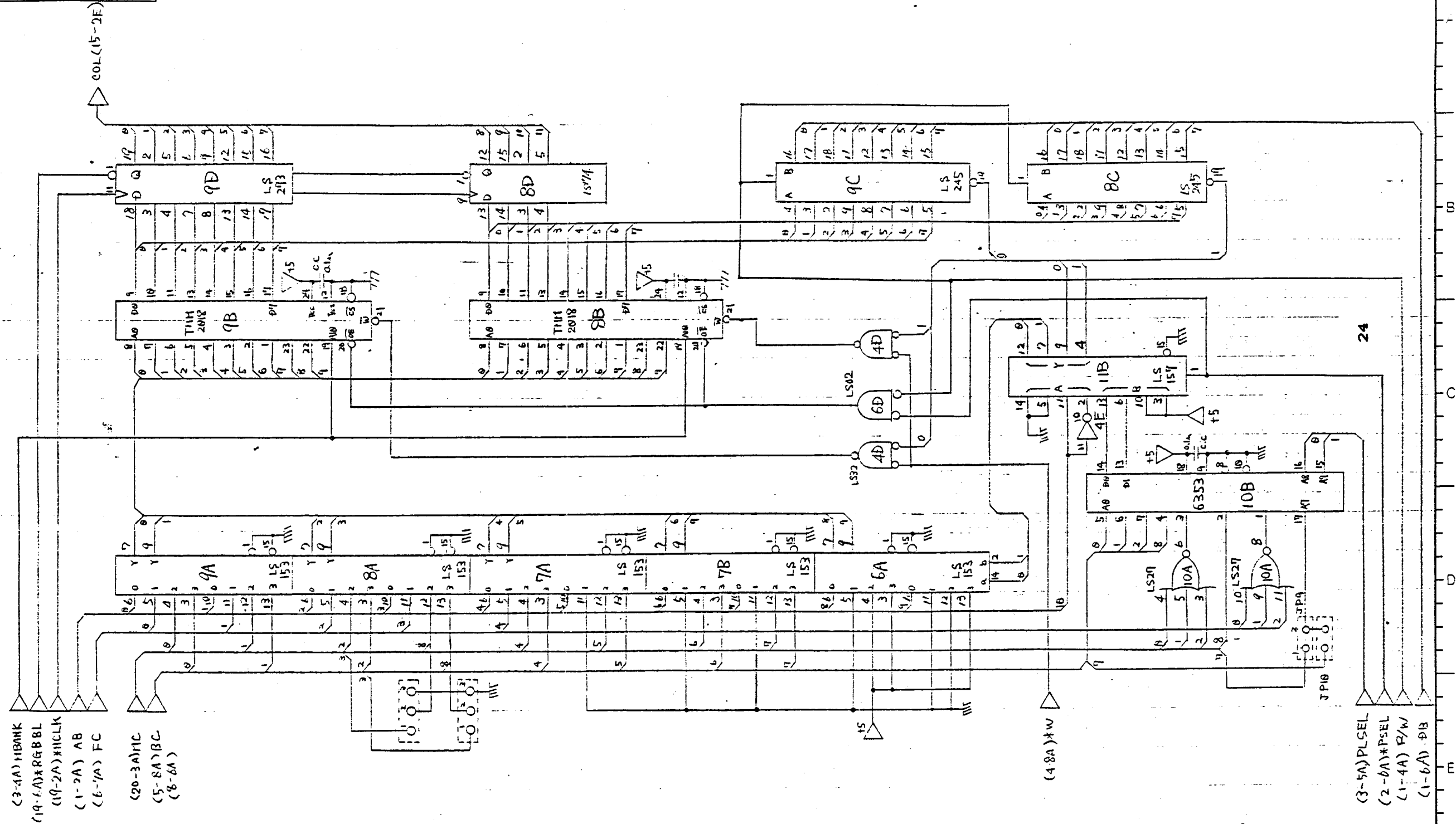


記号	担当	年月日	改訂箇所	符号	部品、図面番号	名称	仕様、材質
材質	処理	公差	名称	CFB-63			
承認	検図	検図	担当	単位	mm	図番	13
			27.6.27	尺度	/	K-10996	20

記事

開運番号	仕様、名称

開通番号	仕様、名称



記号	記号	年月日	改訂	箇所	符号	部品、図面番号	名称	仕様、材質	備考
材質	処理	公差	名称	CFE-63					
承認	検図	検図	担当	単位	mm	図番	K-10996		
			尺度	/					14

記事

関連番号	仕様、名称

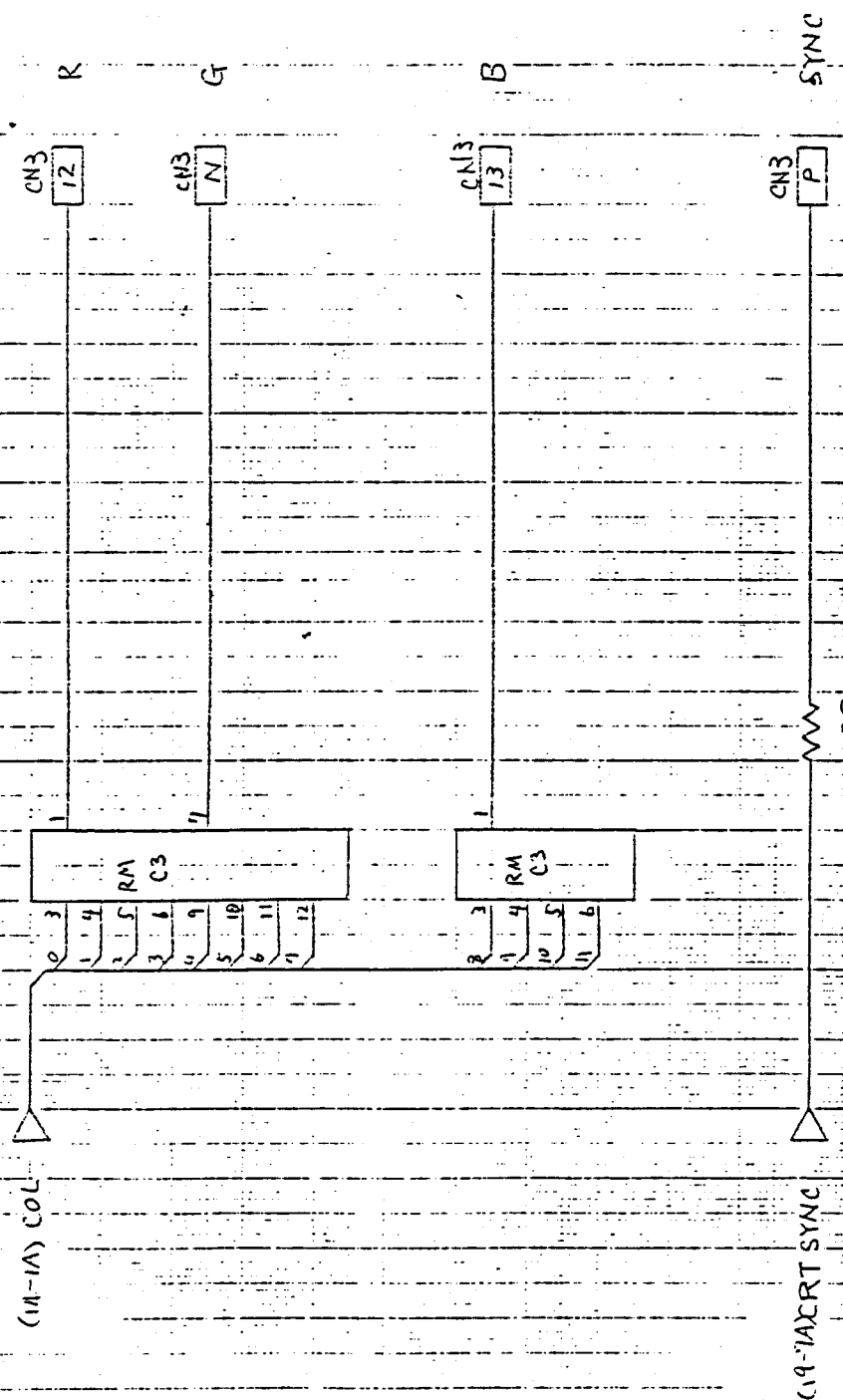
A

B

C

D

E

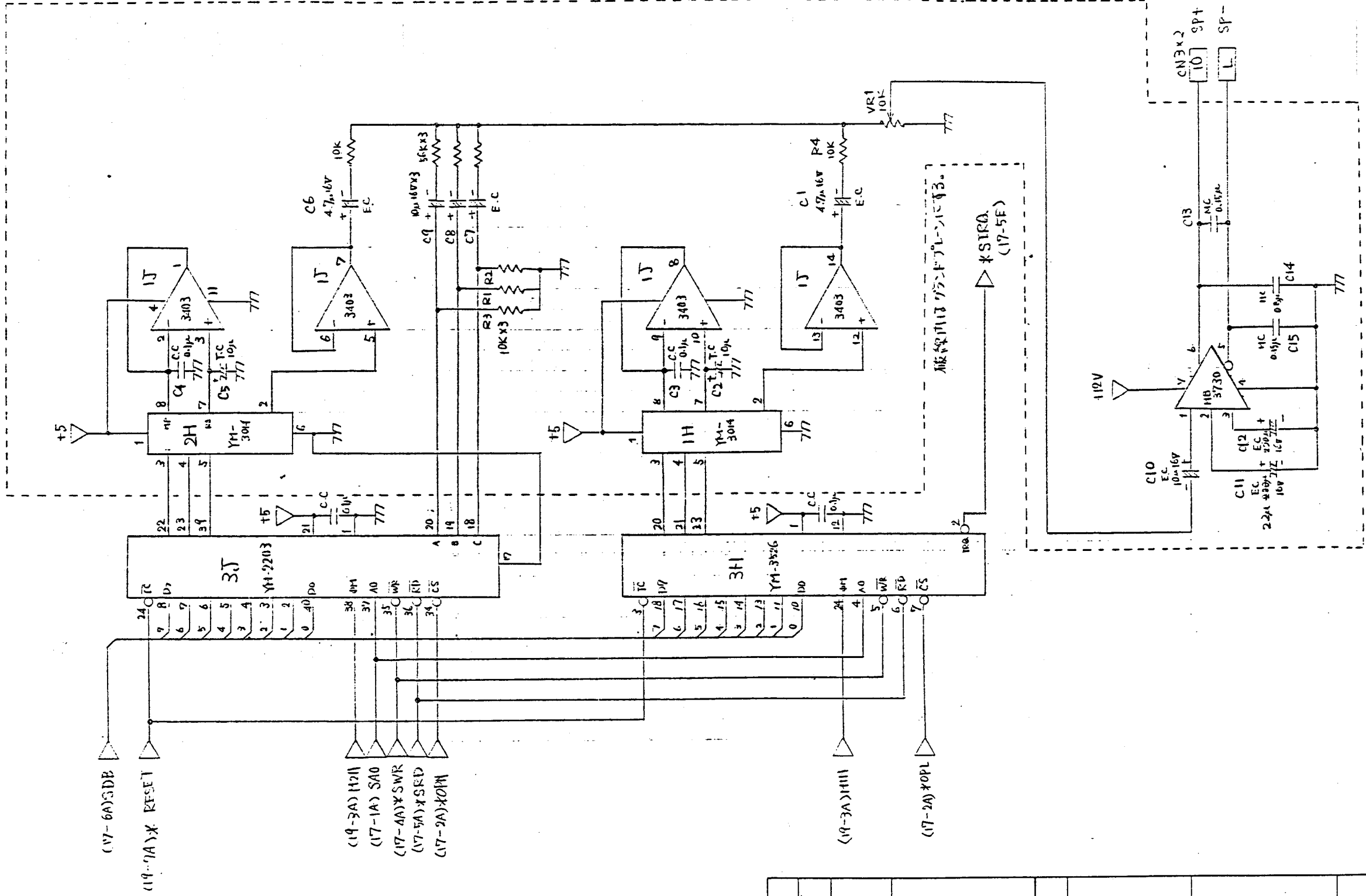


25

記号	担当	年月日	改訂	箇所	符号	部品、図面番号	名称	仕様、材質	備考
材質	処理	公差	名称	CHB-63					
承認	検図	検図	担当	単位	mm	図番	K-10996		
11.6.5	11.6.5	11.6.5	11.6.5	11.6.5	11.6.5	11.6.5	15		
							20		


$$\frac{17}{20}$$

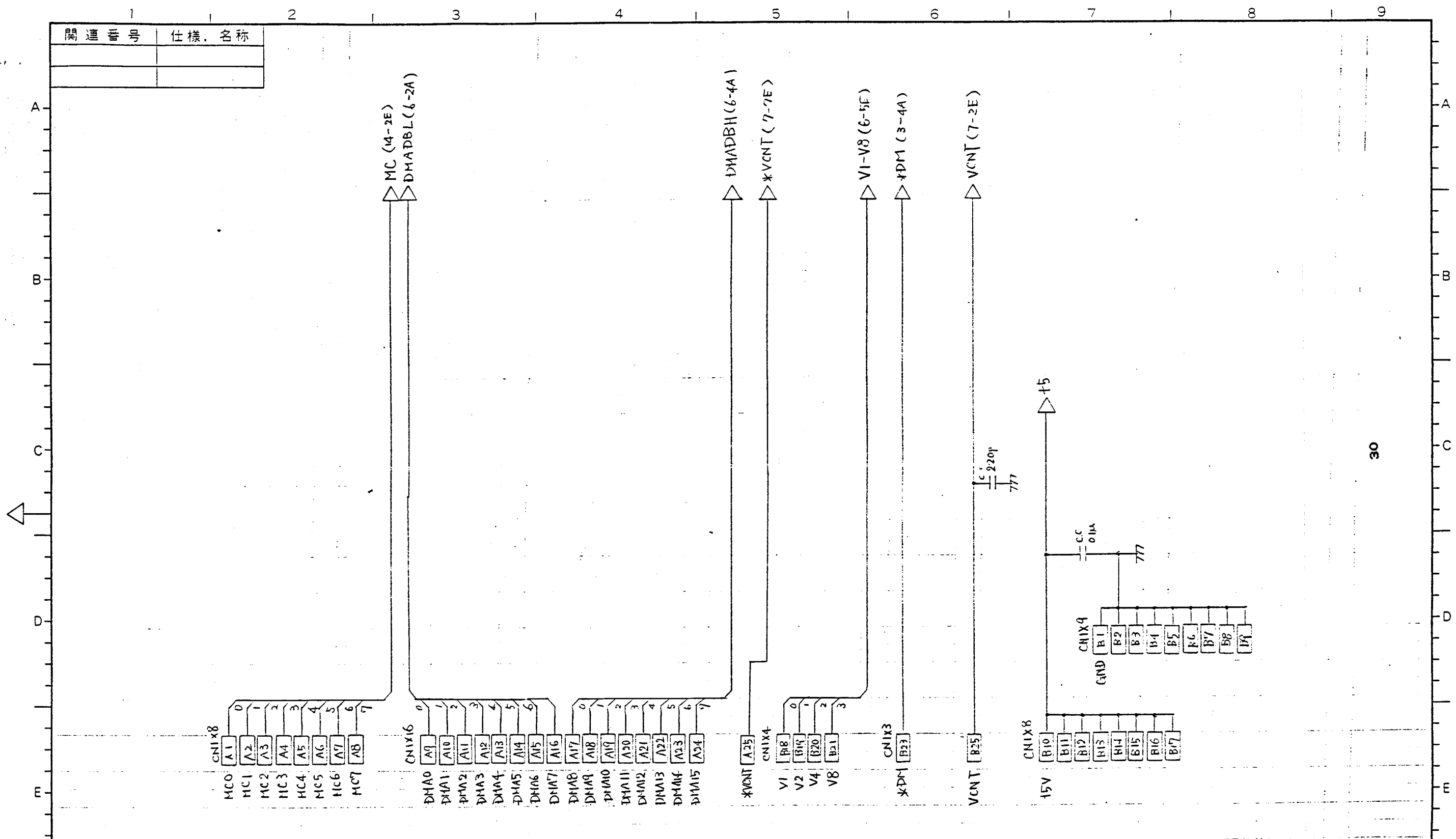
関連番号	仕様、名称



28

記事

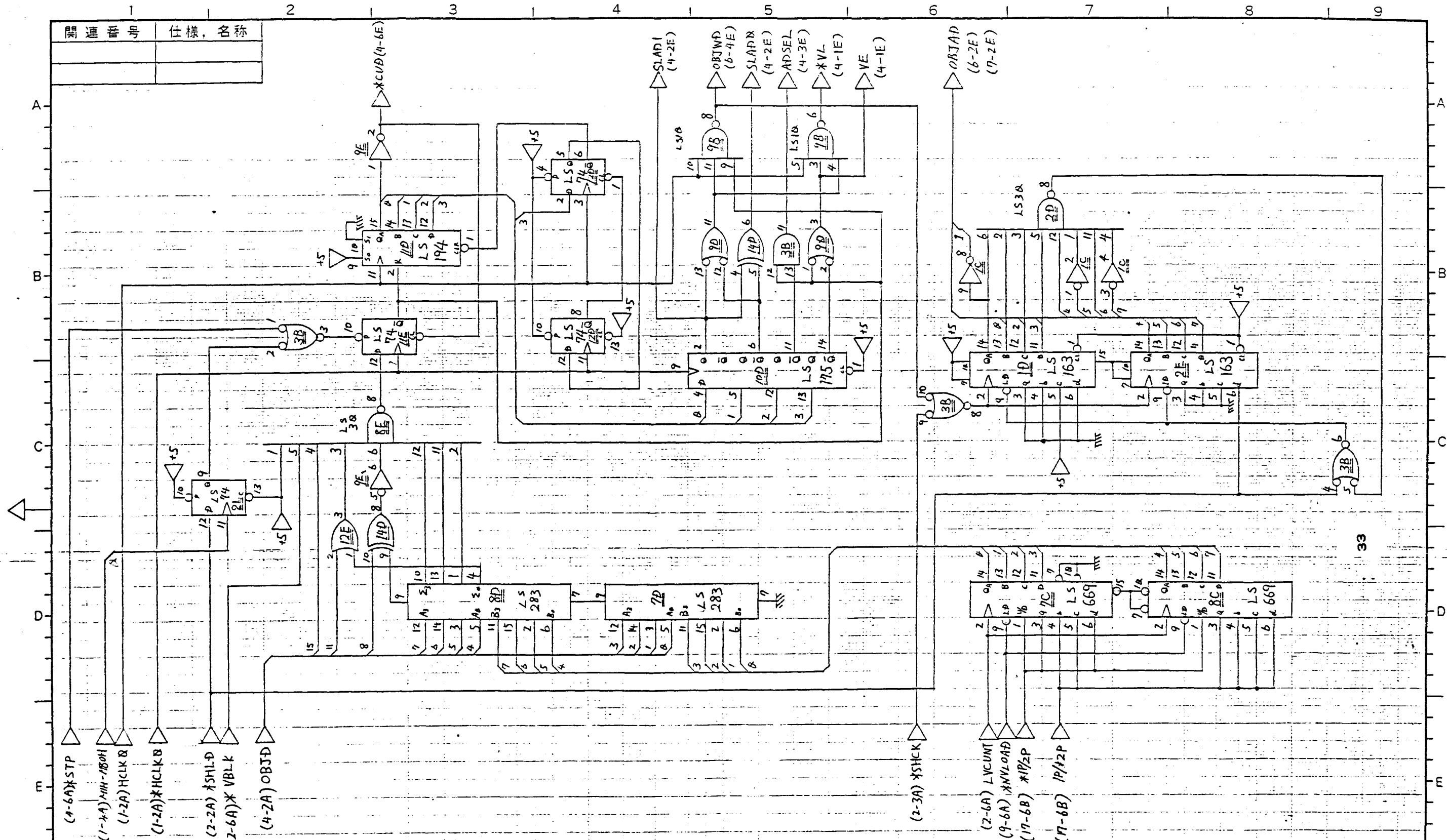
記号	定当	年月日	改訂	個所	符号	部品、図面番号	名称	仕様、材質	図
材質						公差	名称	CFB-63	19
承認	検図	検図	定当	単位	mm	図番	尺度	K-10975	20



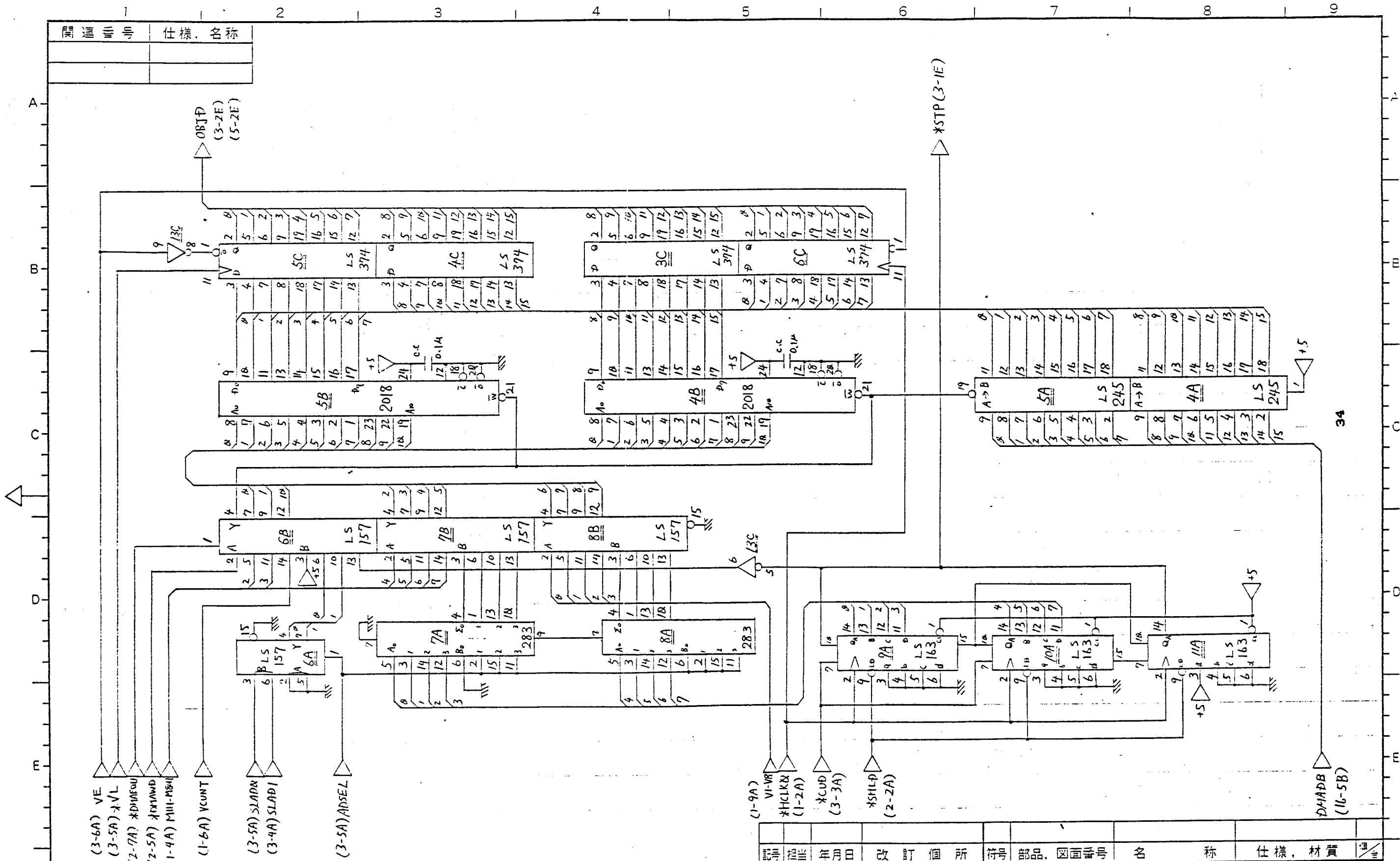
記事

記号	担当者	年月日	改訂	箇所	符号	部品、図面番号	名称	仕様、材質	単位
材質	承認	検図	検図	担当	単位	mm	名称	図番	2C
				21.5.57	尺度	/	CFB-63	K-10996	2C

記号	仕様, 名称



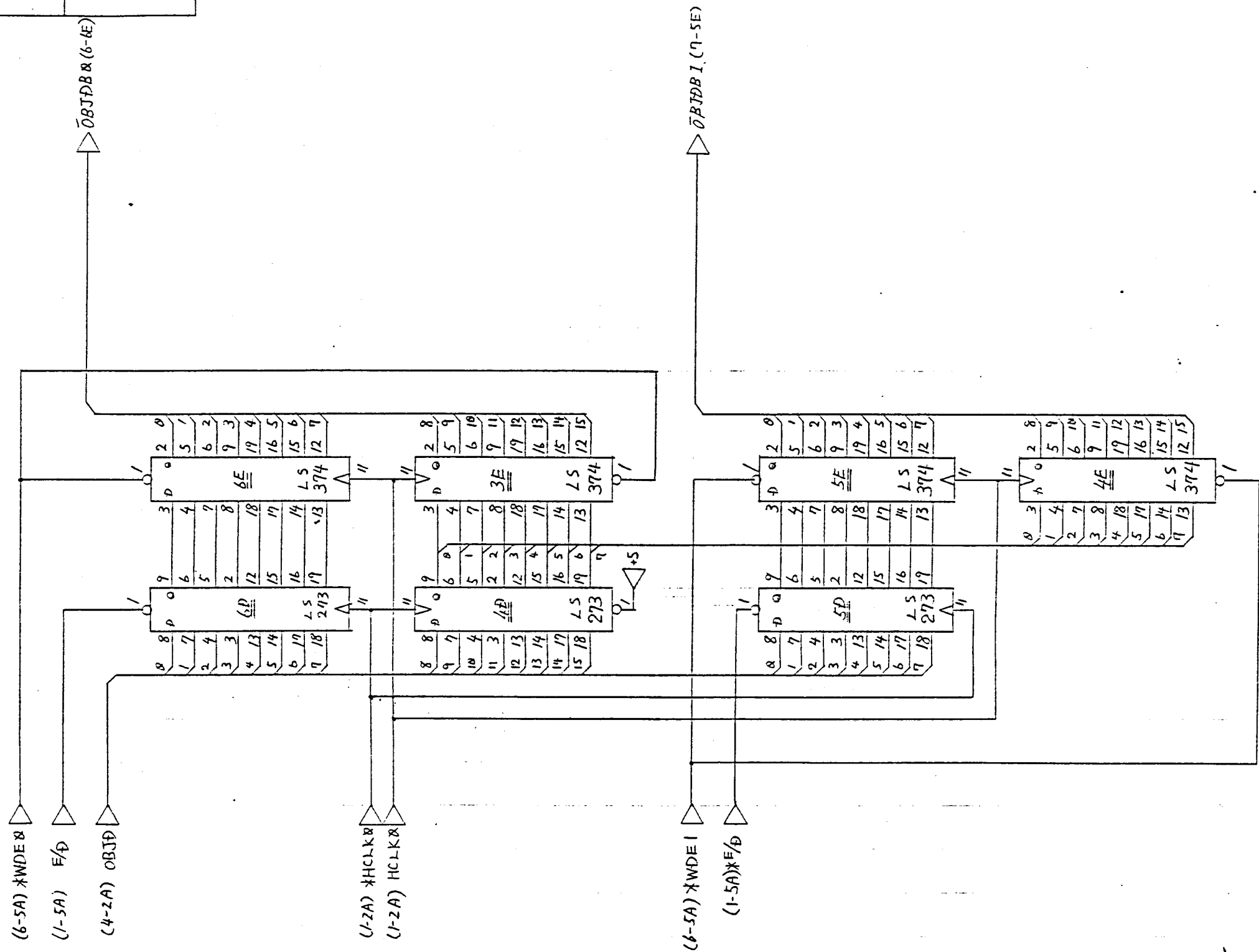
記号	担当	年月日	改訂	個所	符号	部品, 図面番号	名称	仕様, 材質	備考
材質	処理	公差	名称	2N0F-81 回路図					
承認	検図	検図	担当	単位	mm	図番	3/17		
				尺度	/		1K-10000		



記 号

記号	担当者	年月日	改訂	箇所	符号	部品、図面番号	名称	仕様、材質	備考
材質	処理	公差	名称	DNOF-01 回路図					
承認	検図	検図	担当	単位	mm	図番	LK-10023		
河合	加藤	西川	佐藤	尺度	/		4/17		

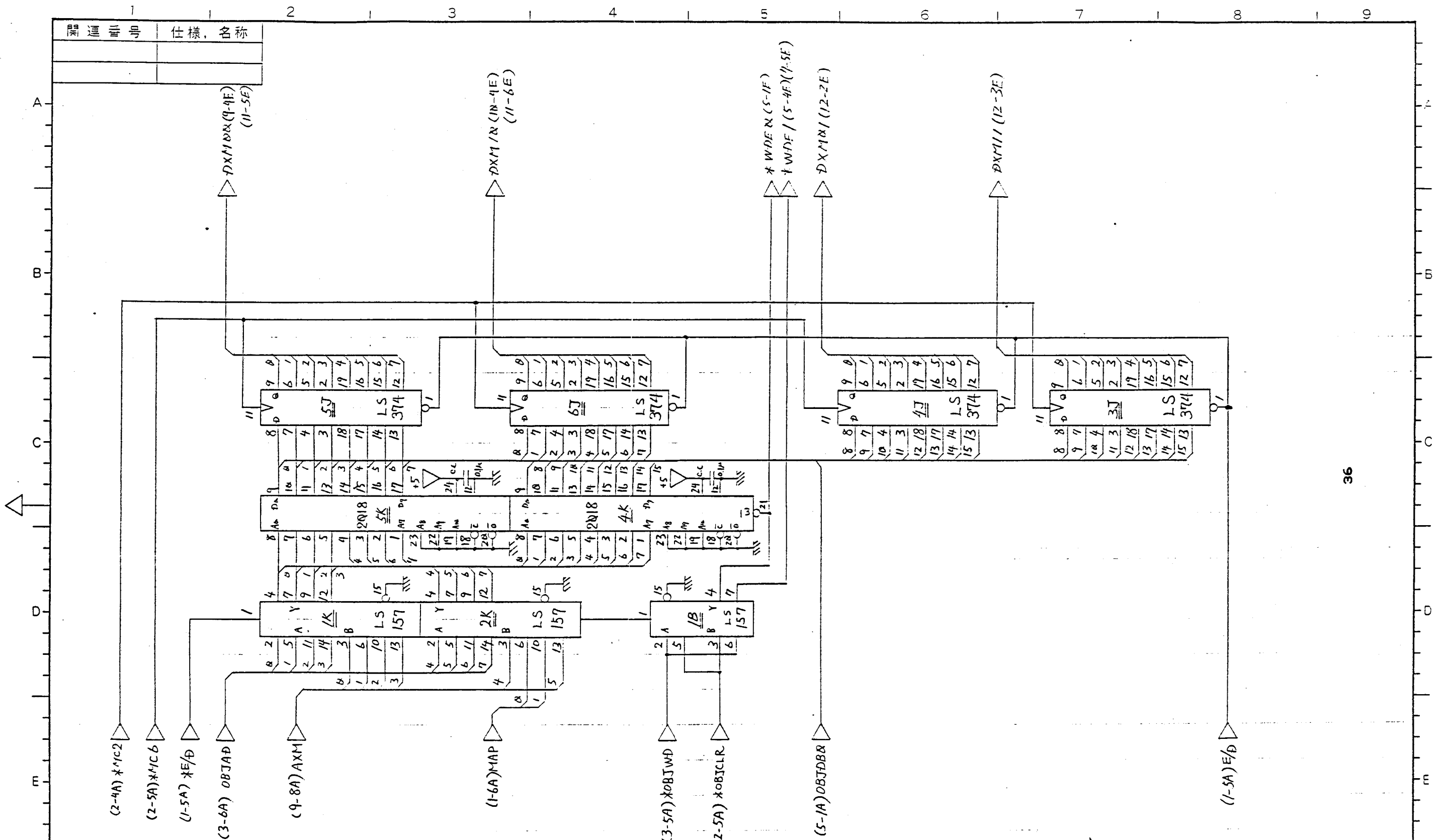
関連番号	仕様、名称



35

記事

記号	担当	年月日	改訂	箇所	符号	部品、図面番号	名称	仕様、材質	図
材質	処理	公差	名称	DNOF-01 回路図					
承認	検図	検図	担当	単位	mm	図番	LK-10023		
22.1.15	6.12.17	51.5.24	51.5.13	尺度	/	5	17		

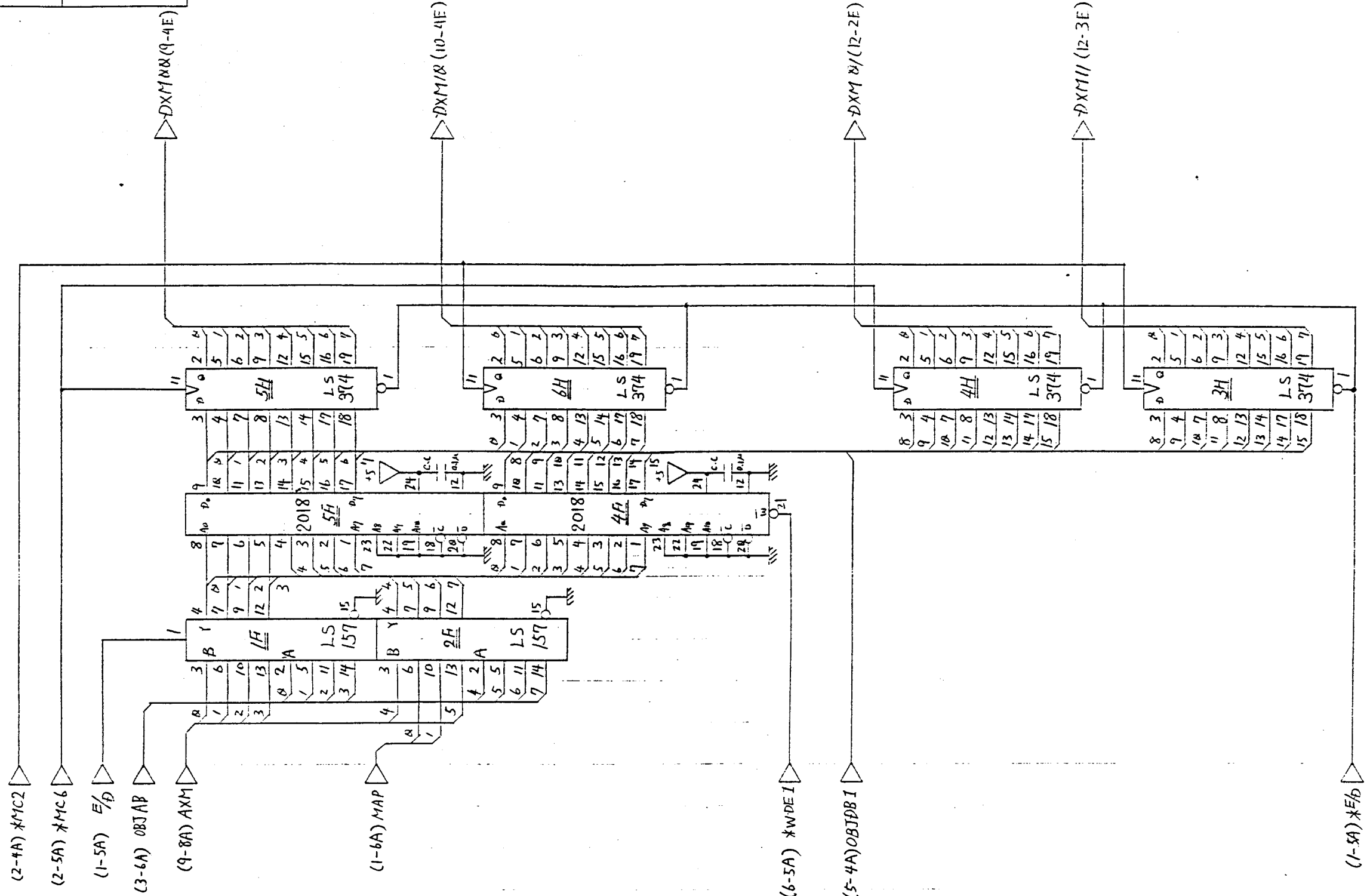


36

記事

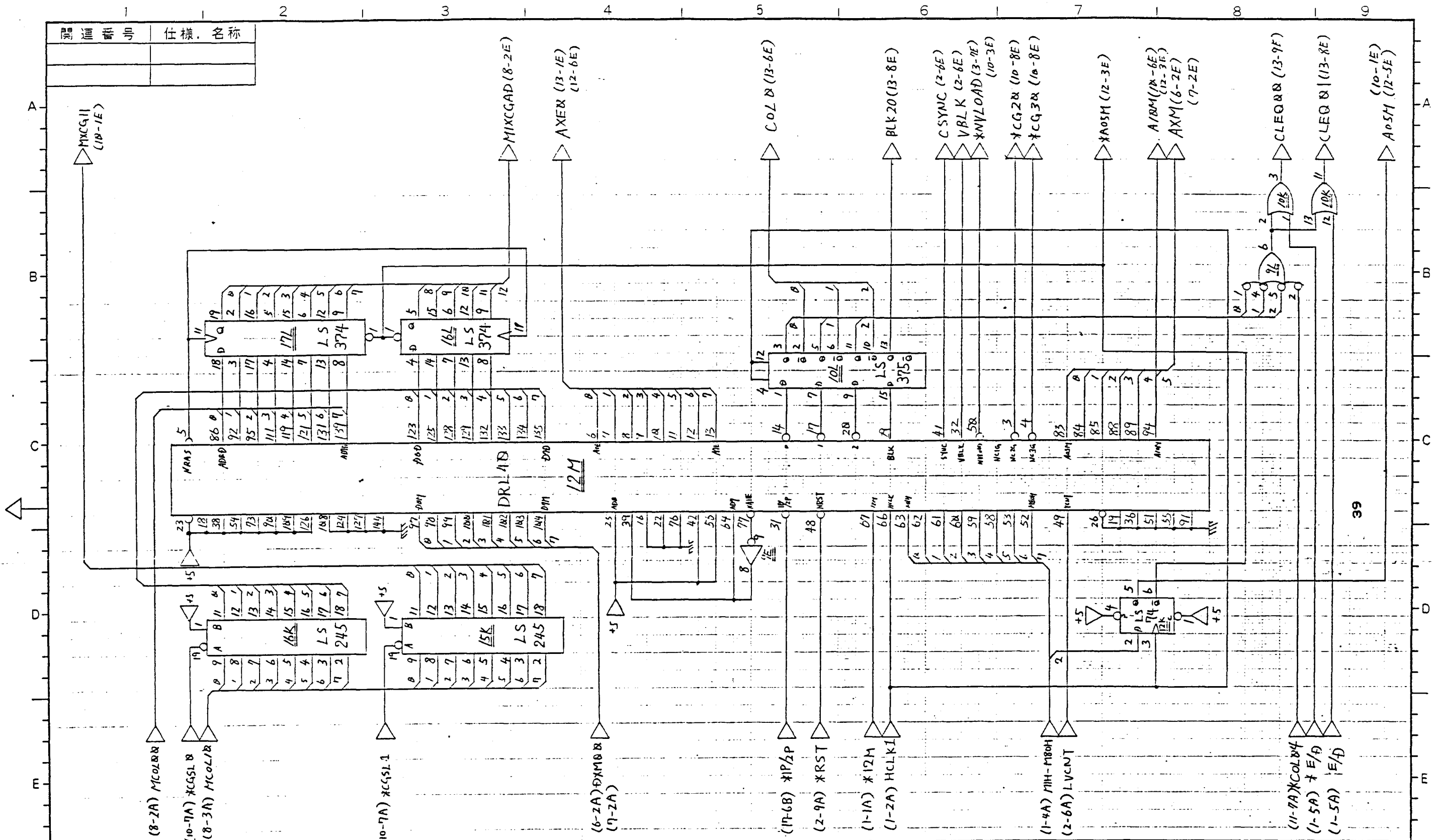
記号	担当	年月日	改訂	箇所	符号	部品、図面番号	名称	仕様、材質	備考
材質	処理	公差	名称	DN0F-01 回路図					
承認	検図	検図	担当	単位	mm	図番	LK-10023		
12.1.23	1.7.2	21.5.24	1.7.12	尺度	/				

関連番号	仕様、名称



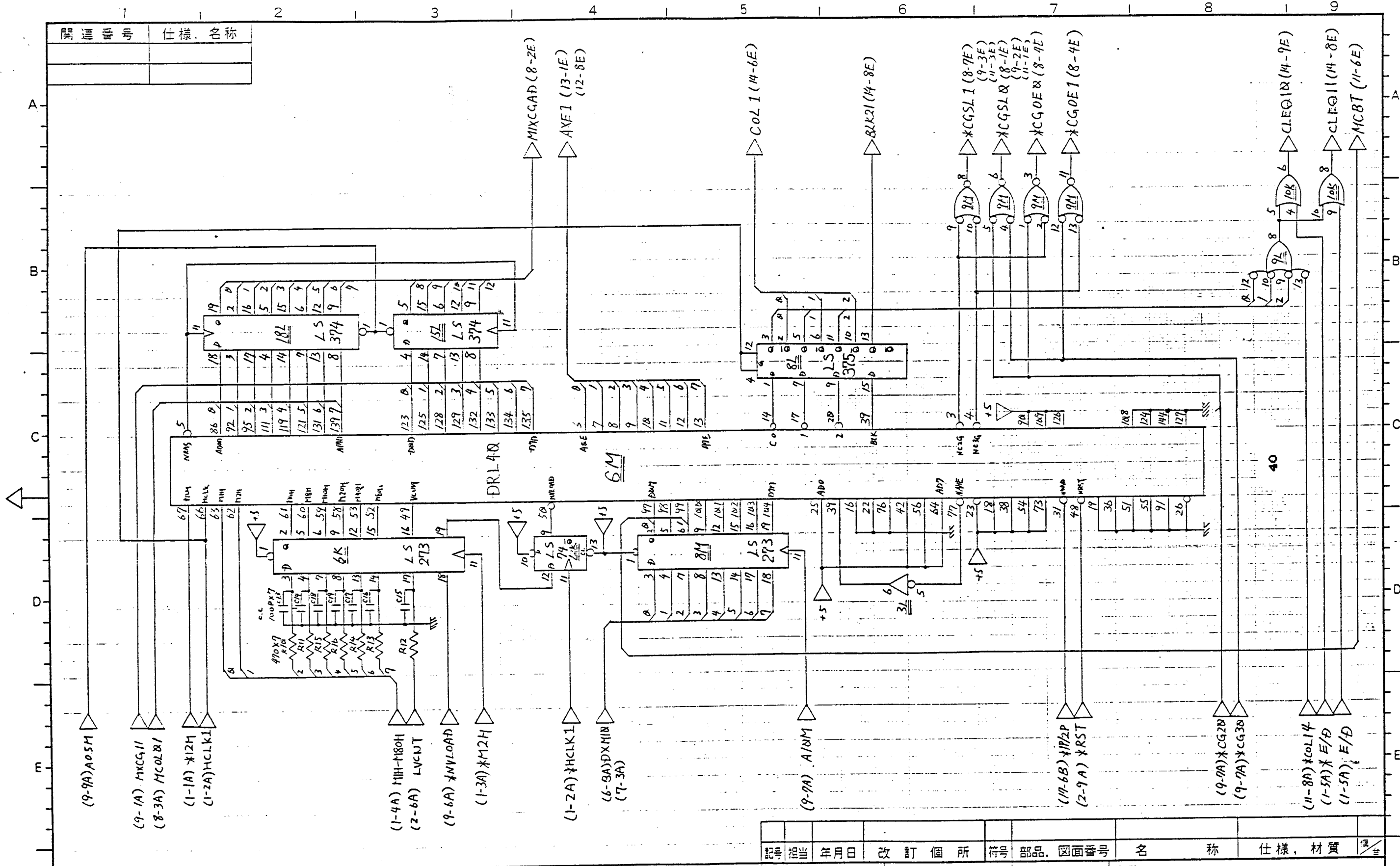
37

記事		材質		処理		公差		名称	
								DNOF-81 回路図	
承認	検図	検図	担当	単位	mm	図番			
西村	加藤	西村	加藤	尺度	/	LK-10023		7 17	



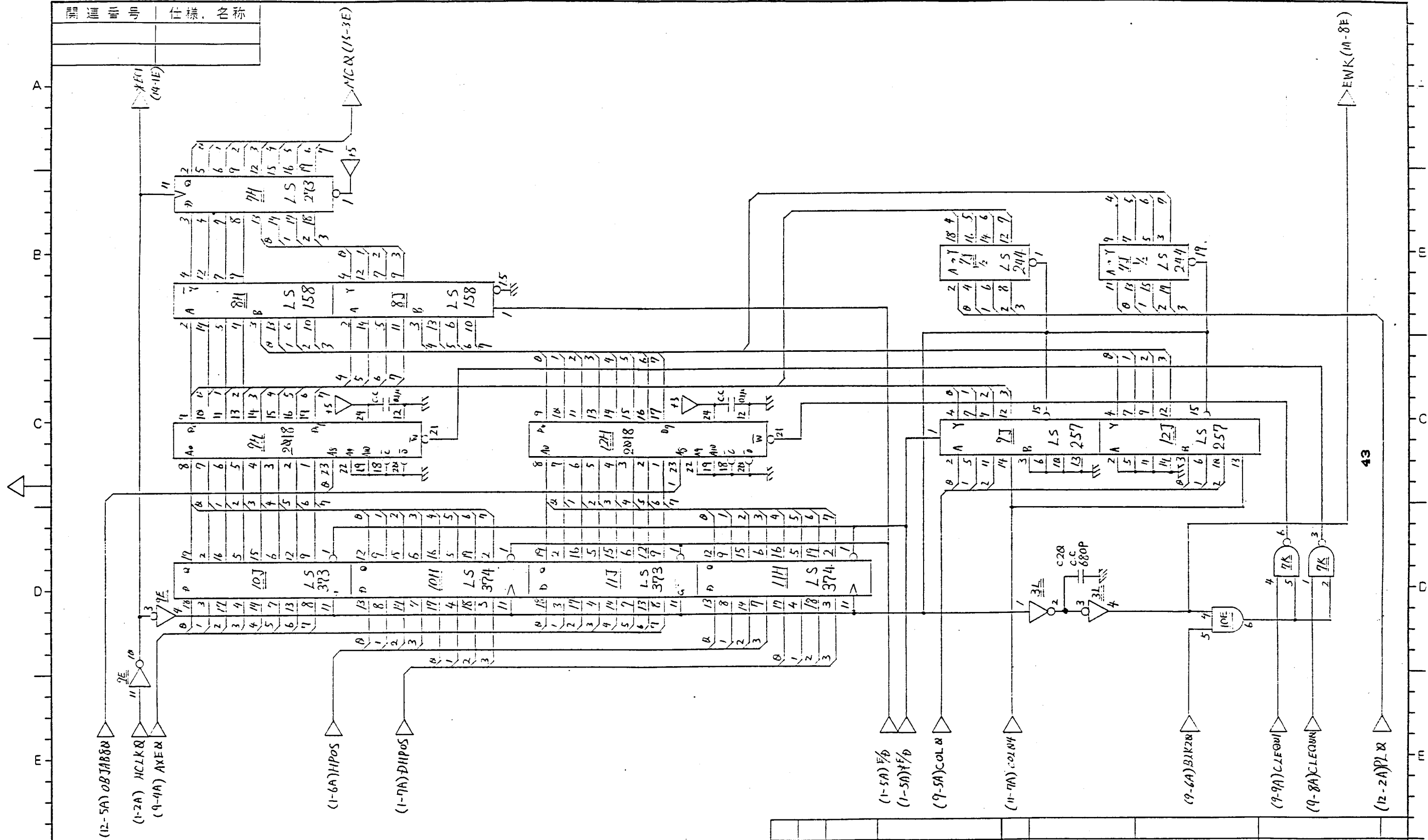
記 号

記号	担当	年月日	改訂	個所	符号	部品、図面番号	名 称	仕様、材質	備 考
材質	処理	公差	名称	DNOF-21 回路図					
承認 ・10/5 62.1.2	検図 加藤 62.1.23	検図 西川 62.5.24	担当 加藤 62.5.15	単位 R度	mm /	図番 LK-12223	9 17		

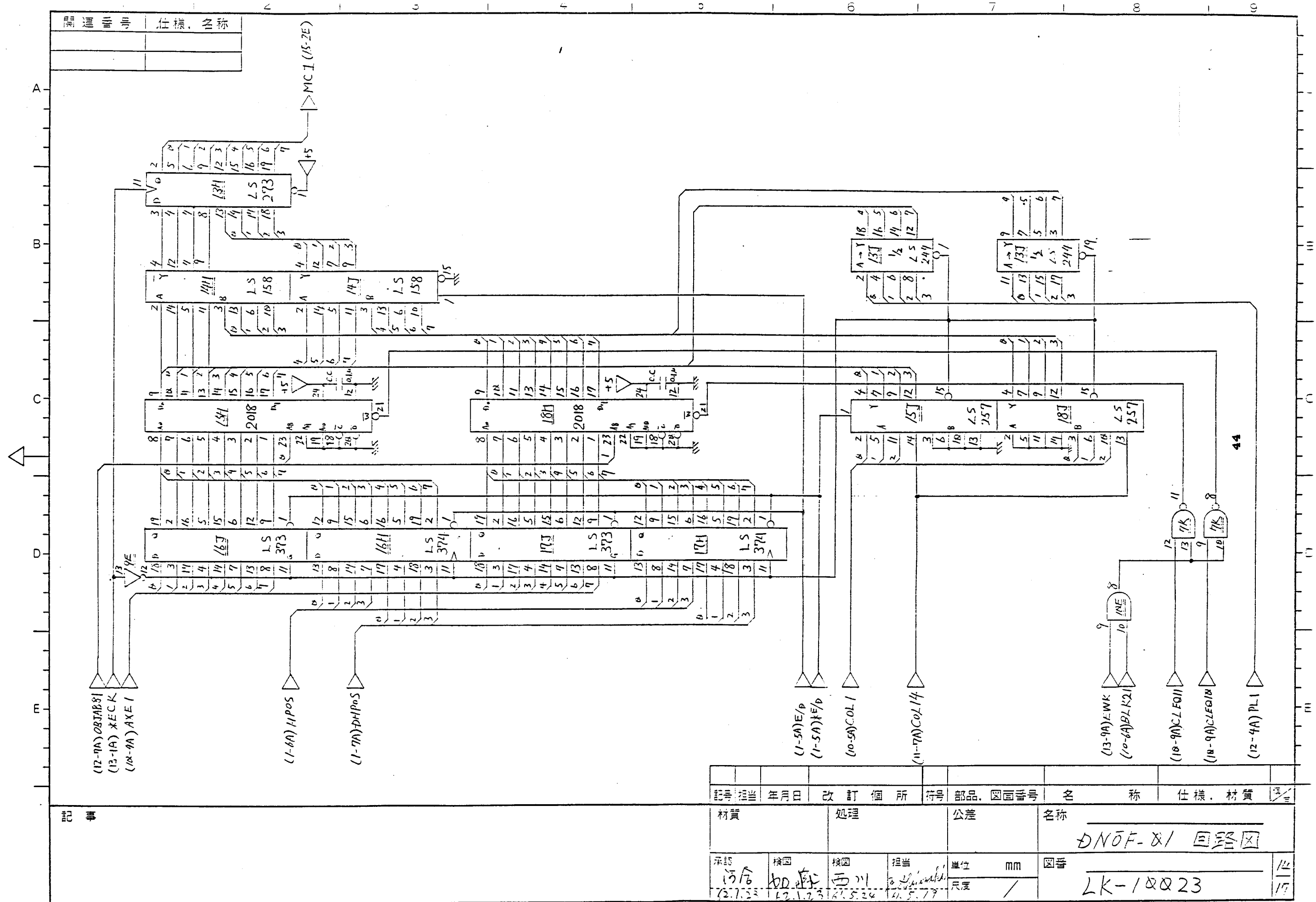


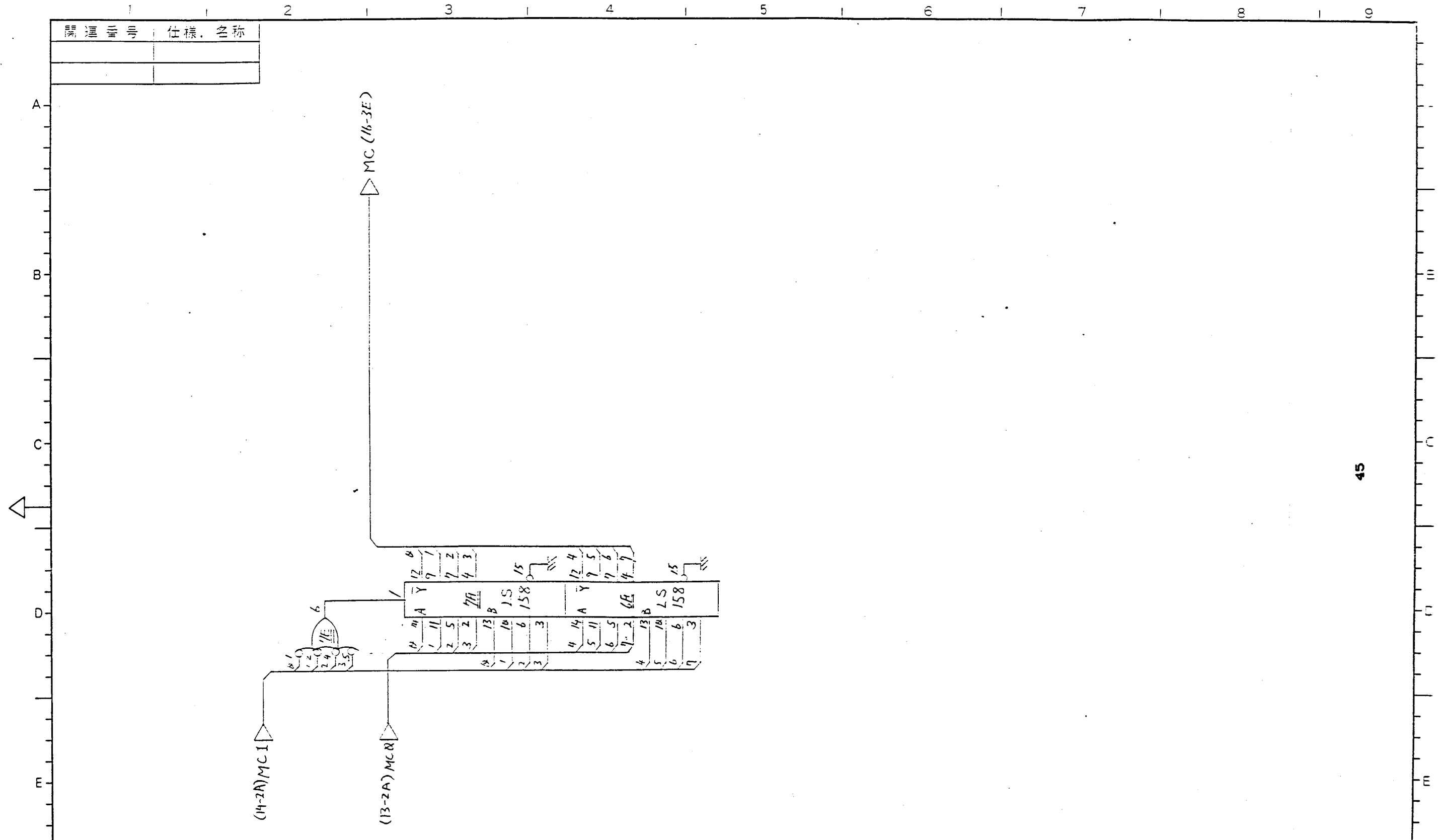
記号	担当	年月日	改訂	箇所	符号	部品	図面番号	名称	仕様	材質	備考
材質	処理	公差	名称	DNOF-21 回路図							
承認	検図	検図	担当	単位	mm	図番	LK-18023				
13/5	加藤	西川	小林	単位	mm	図番	LK-18023				
13/5	加藤	西川	小林	単位	mm	図番	LK-18023				

開通番号	仕様、名称



記号	担当	年月日	改訂	箇所	符号	部品、図面番号	名称	仕様、材質	通
材質	処理	公差	名称	DNOF-01 回路図					
承認	検図	検図	担当	単位	mm	図番	LK-10023		
62.1.23	河合	如藤	西川	1/5.10	1		13/17		





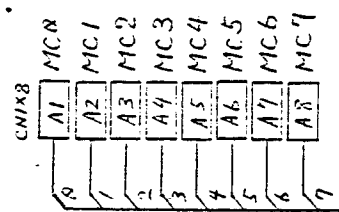
関連番号	仕様、名称

記事

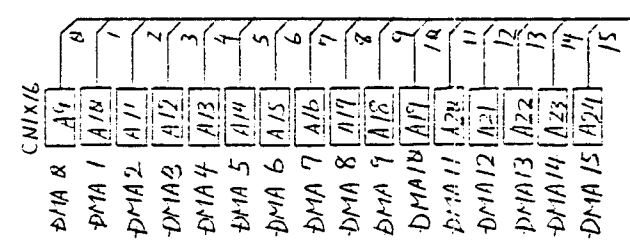
記号	担当	年月日	改訂	箇所	符号	部品、図面番号	名称	仕様、材質	
材質						公差	名称		
承認	検図	検図	担当	単位	mm	図番			15
15	15	15	15	15	15	15	DN0F-01 回路図		17
15	15	15	15	15	15	15	LK-10023		17



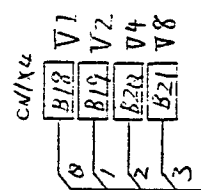
圖面番号	仕様、名称



(15-3A)MC



DMA+DB (4-9E)



(1-9A) V1-V8

CN1

*DM (2-7E)

*DM B23

CNIX2

B24

DMAEQU

(2-7A) DMAEQU

B25

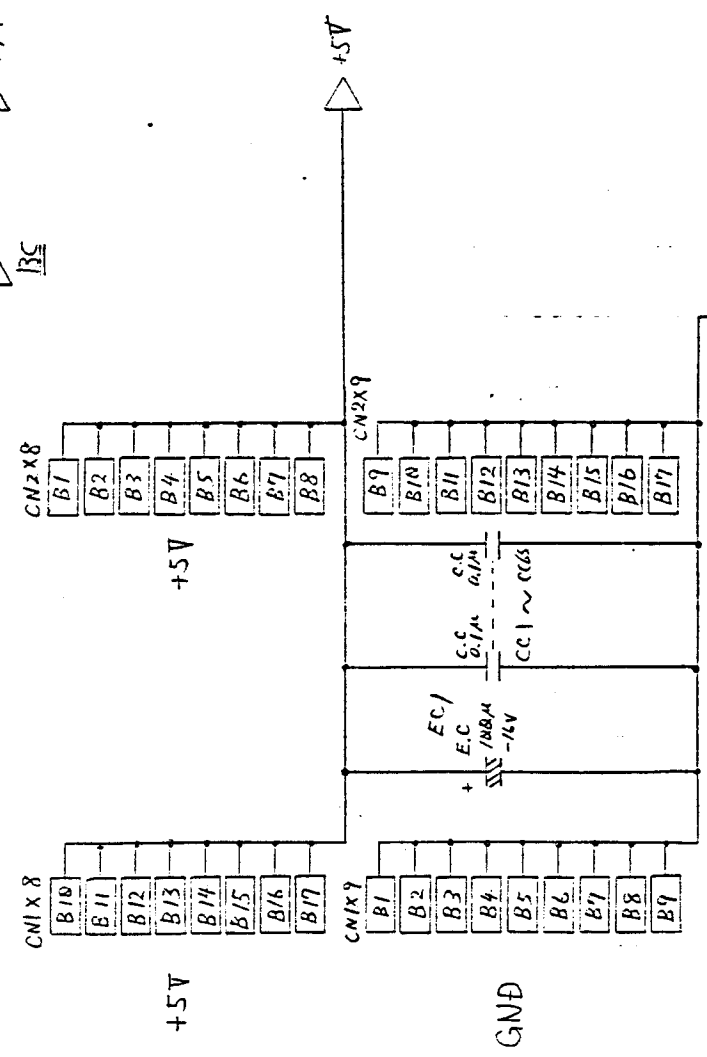
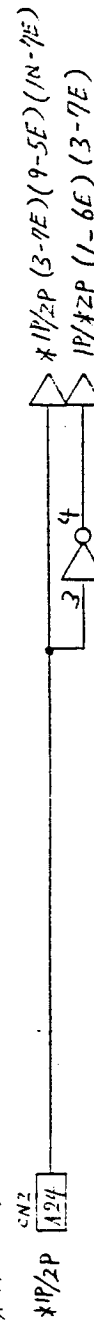
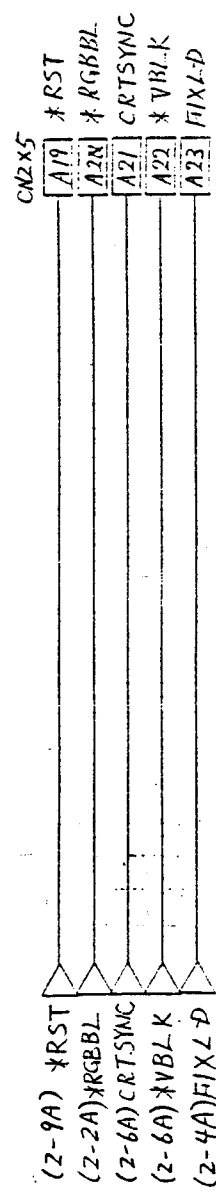
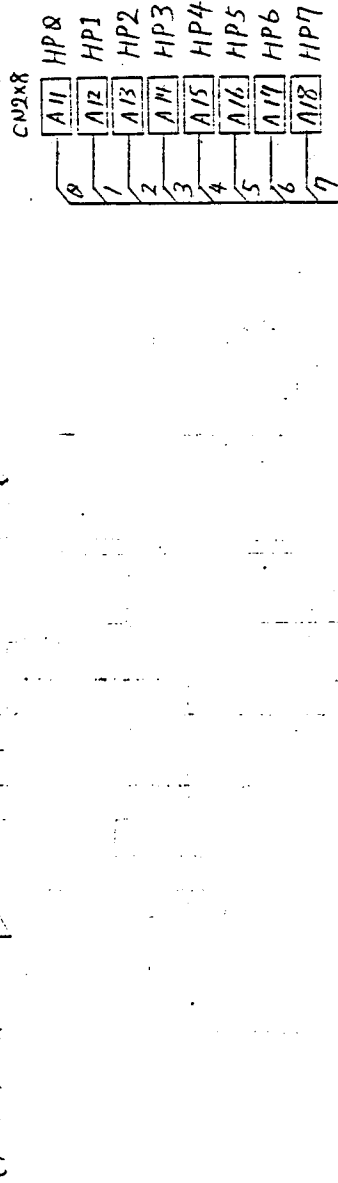
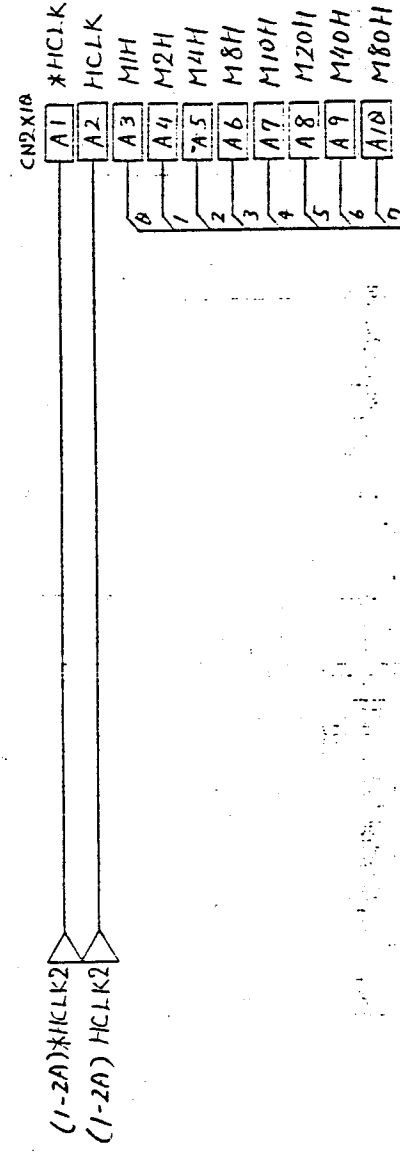
VCUNT

(1-4A) VCUNT

記事

記号	担当	年月日	改訂箇所	符号	部品、図面番号	名称	仕様、材質
材質	処理	公差	名称	DNOF-01 回路図			
承認 河合	検図 加藤	検図 三川	担当 K. Minami	単位 mm	図番	LK-10023	
62.7.22	62.7.22	62.5.28	62.5.28	尺度	/	16	17

関連番号	仕様、名称

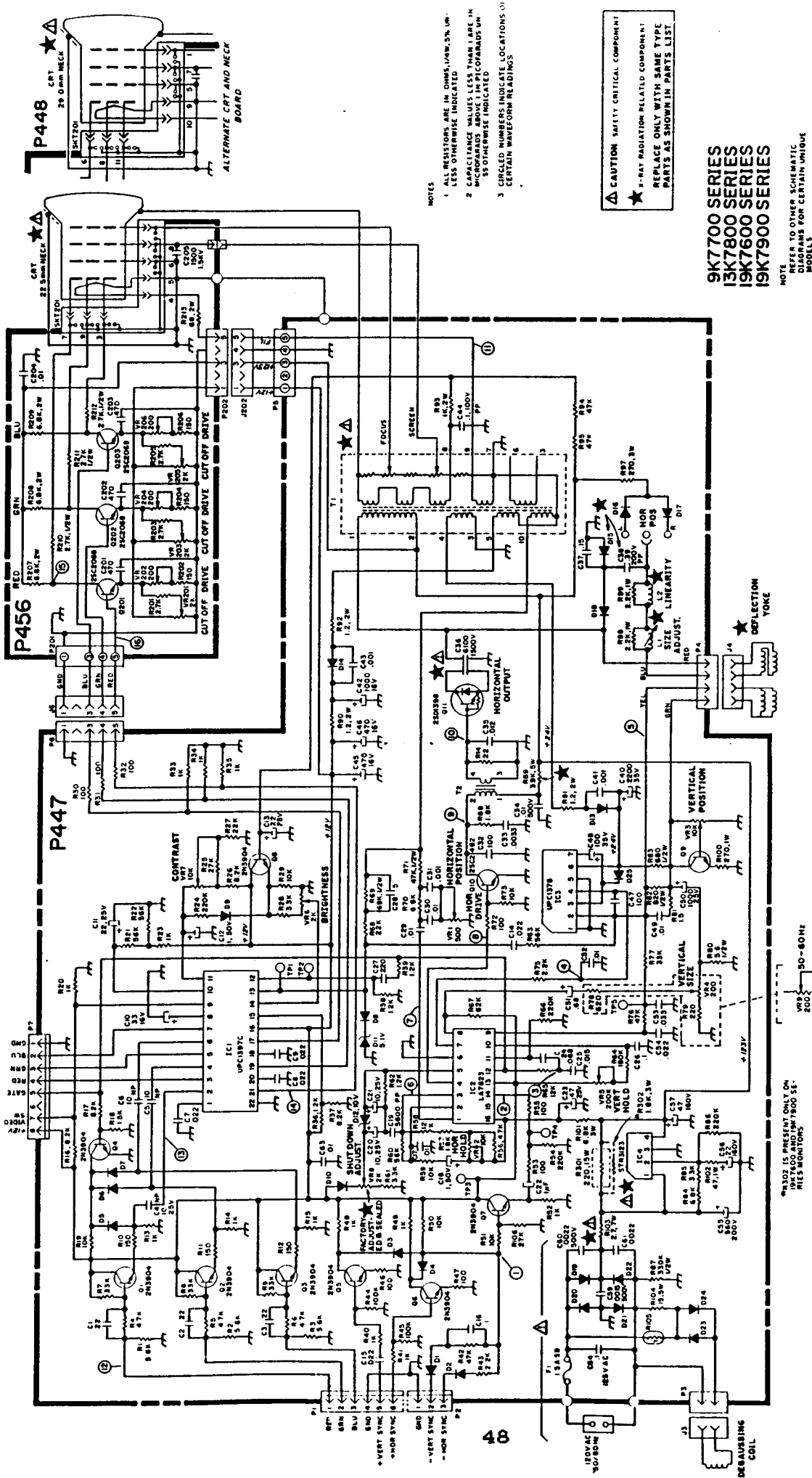


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記事

記号	注記	年月日	改訂	個所	符号	部品、図面番号	名称	仕様、材質	備考
材質	処理	公差	名称	DN0F-01 回路図					
承認	検図	検図	担当	単位	mm	図番	1/1		
1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1		

K7000 COLOR MONITOR SCHEMATIC DIAGRAM



- NOTES**
1. ALL RESISTORS ARE IN OHMS, UNLESS OTHERWISE INDICATED.
 2. CAPACITANCE VALUES LESS THAN 1000 ARE IN MICROFARADS ABOVE IN PICTORIALS UNLESS OTHERWISE INDICATED.
 3. CIRCLED NUMBERS INDICATE LOCATIONS IN CERTAIN WAVEFORM READINGS.

CAUTION SAFETY CRITICAL COMPONENT

★ X-RAY RADIATION RELATED COMPONENT

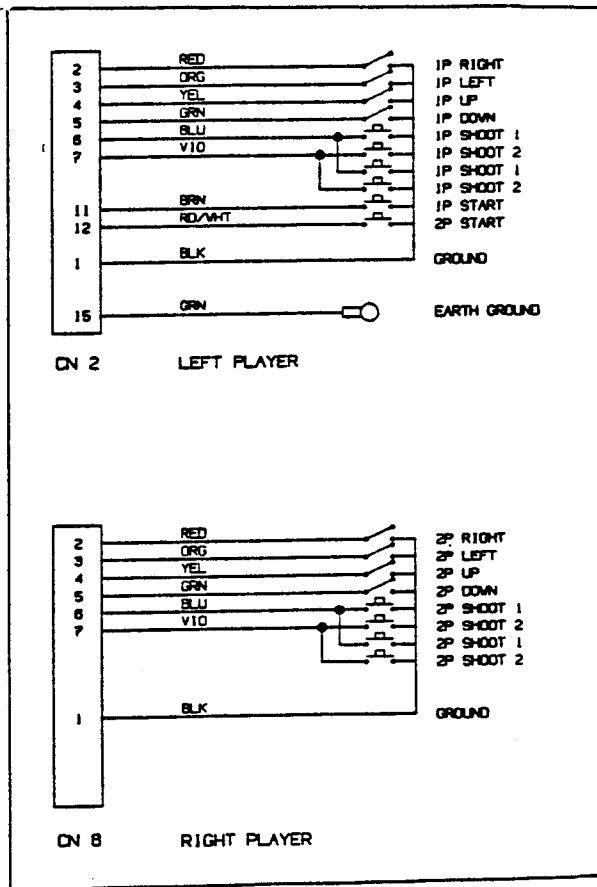
REPLACE ONLY WITH SAME TYPE PARTS AS SHOWN IN PARTS LIST

9K7700 SERIES
13K7800 SERIES
19K7600 SERIES
19K7900 SERIES

NOTE
 REFER TO OTHER SCHEMATIC DIAGRAMS FOR CERTAIN UNIQUE MODELS

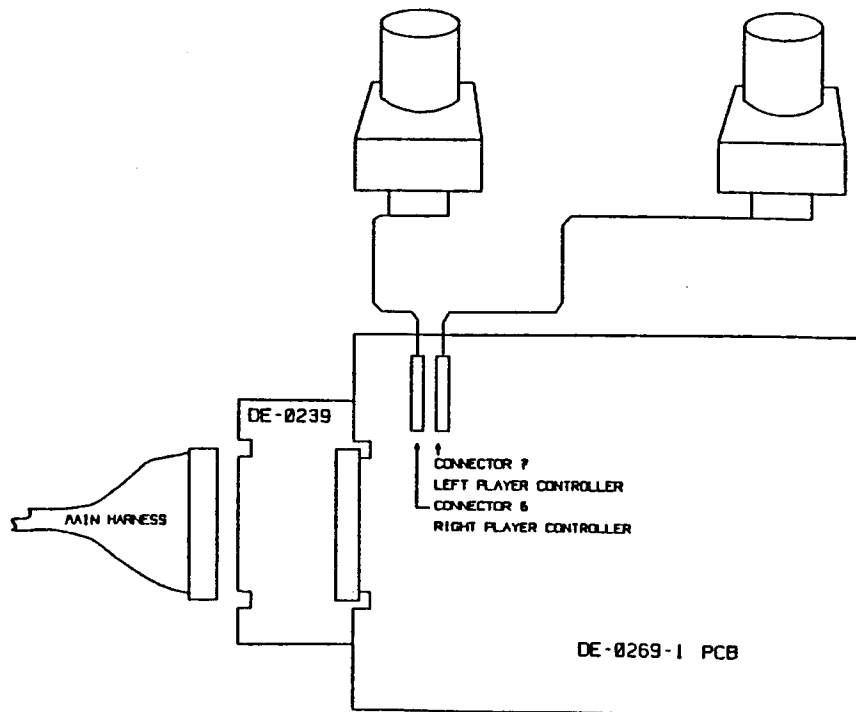
6. WIRING DIAGRAM

a. Control Panel.....	50
b. Main Harness.....	51
c. Power Supply.....	52

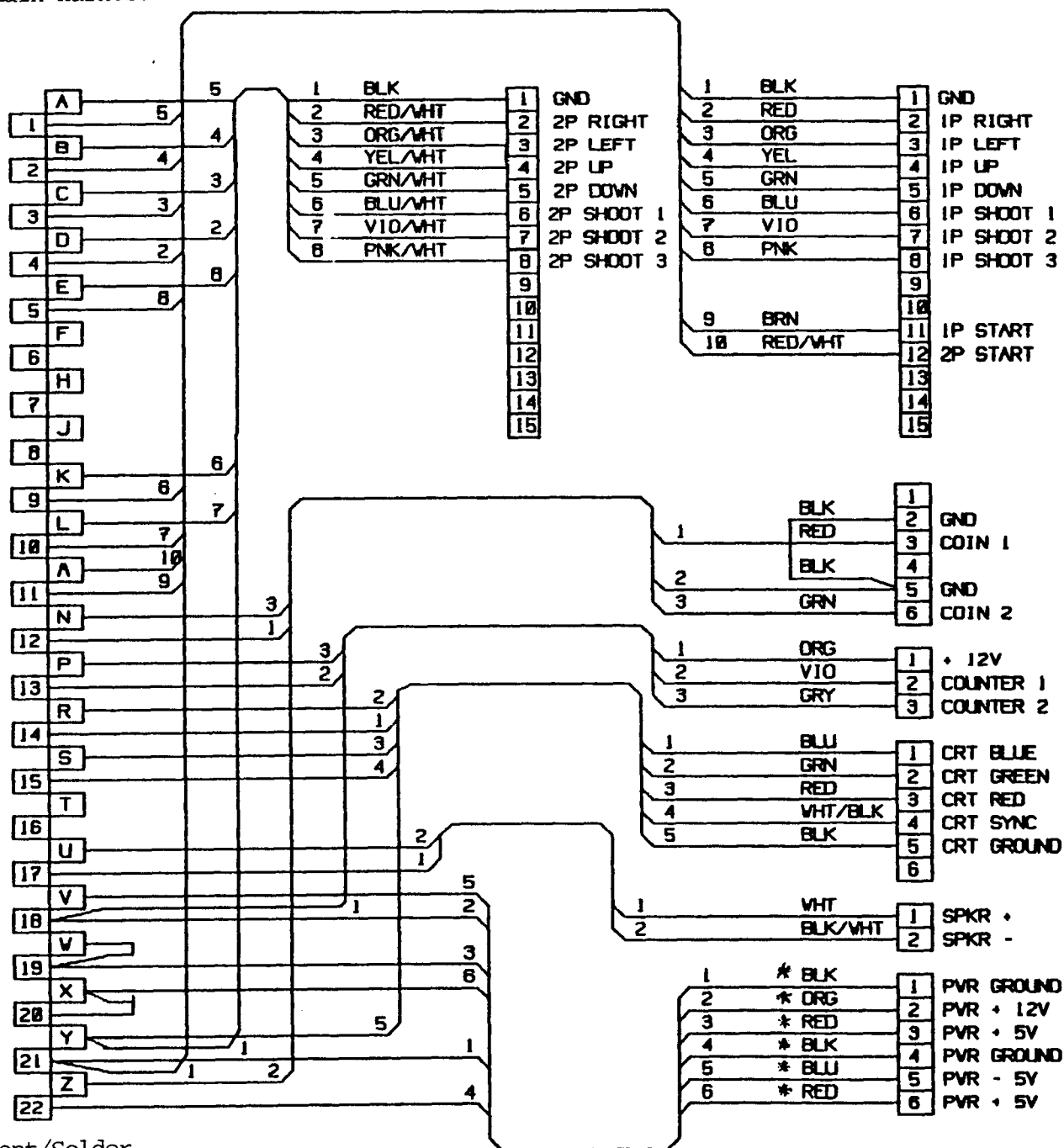


NOTE: Each joystick assembly has a 360° Rotary Switch mounted to it. The cable from each Rotary Switch must connect to the proper connector on the logic PCB (DE-0269).

The left player side connects to CN-7 on the DE-0269 PCB, and the right player side connects to CN-6.



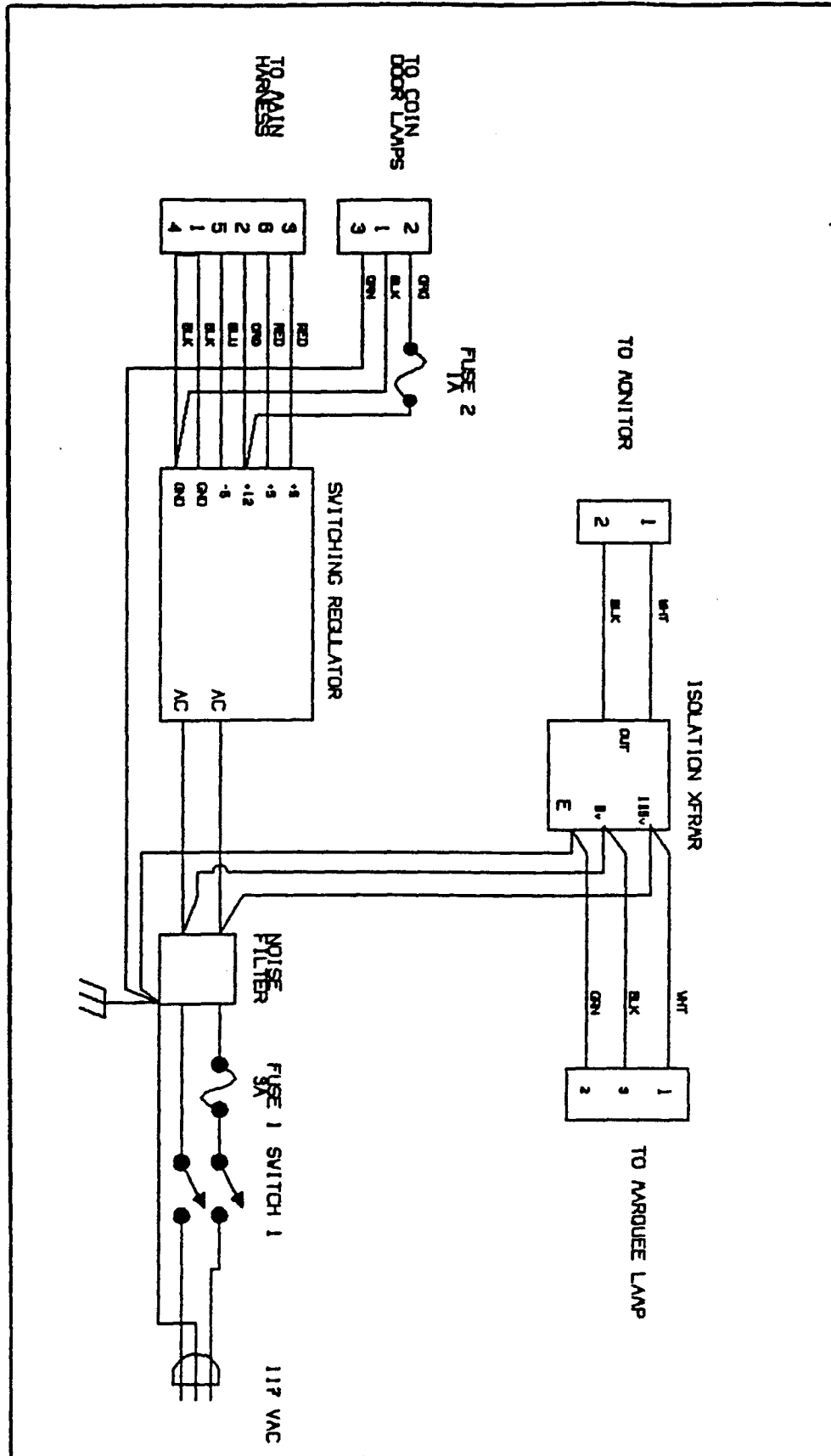
Main Harness

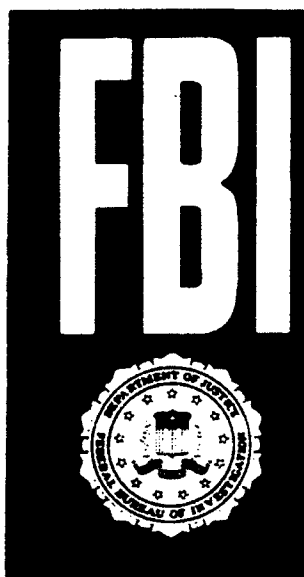


Component/Solder
side

NOTE: * = 18 awg wire, all other 22 awg.

c. Power Supply





WARNING

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